DENON

Hi-Fi Component

SERVICE MANUAL

MODEL DN2700F

DOUBLE CD PLAYER

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NIPPON COLUMBIA CO., LTD.

IMPORTANT TO SAFETY

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

1. Handle the power supply cord carefully
   Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or malfunction when used. When removing from wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.
2. Do not open the top cover
   In order to prevent electric shock, do not open the top cover. If problems occur, contact your DENON dealer.
3. Do not place anything inside
   Do not place metal objects or spill liquid inside the CD player. Electric shock or malfunction may result.

Please, record and retain the Model name and serial number of your set shown on the rating label

Model No. DN-2700F Serial No. _____

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

- FOR U.S.A. & CANADA MODEL ONLY

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

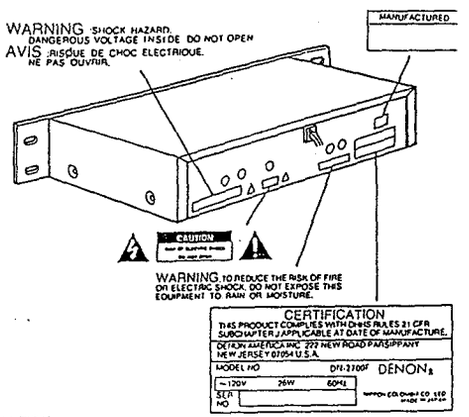
- POUR LES MODELES AMERICAINS ET CANADIENS UNIQUEMENT

ATTENTION

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

NOTE:
This CD player uses the semiconductor laser. To allow you to enjoy music at a stable operation, it is recommended to use this in a room of 5°C 41°F – 35°C 95°F.

LABELS (for U.S.A. model only)


WARNING :SHOCK HAZARD.
DANGEROUS VOLTAGE INSIDE DO NOT OPEN
AVIS :RISQUE DE CHOC ELECTRIQUE.
NE PAS OUVRIR.
MANUFACTURED
CAUTION
WARNING TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
CERTIFICATION
THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.
DENON AMERICA INC. 222 NEW ROAD PARSIPPANY NEW JERSEY 07054 U.S.A.
MODEL NO DN-2700F DENON
~120V 26W 60Hz
SER. NO

CAUTION:
USE OF CONTROLS OR ADJUSTMENTS OR REFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

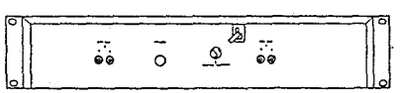
NOTE:
This unit may cause interference to radio and television reception if you do not operate it in strict accordance with this OPERATING INSTRUCTIONS.

This unit complies with Class B computing device rules in accordance with the specifications in Sub-part J or Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If the unit does cause interference to any radio or television reception, try to reduce it by one or more of the following means:

a) Turn the other unit to improve reception
b) Move this unit
c) Move this unit away from others
d) Plug this unit respectively into a different AC outlet

* This is note in accordance with Section 15.838 of the FCC Rules.

- Line Voltage Selection (for multiple voltage model only)
  - The desired voltage may be set with the VOLTAGE SELECTOR knob on the rear panel, using a screwdriver.
  - Do not twist the VOLTAGE SELECTOR knob with excessive force as this may cause damage.
  - If the VOLTAGE SELECTOR knob does not turn smoothly, please contact a qualified serviceman.



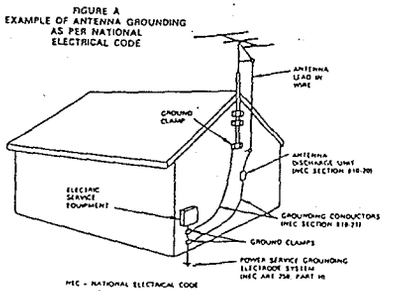
SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250 PART H)
NEC - NATIONAL ELECTRICAL CODE

12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines – An outdoor antenna should be located away from power lines.
16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

MAIN FEATURES

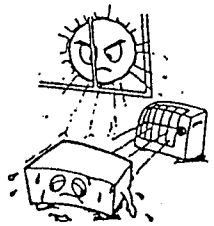
The DN-2700F is a double CD player including the excellent functions proven on the DN-2000F plus easy-to-use new functions. Enjoy DJ mixing and remixing with the DN-2700F.

(1) The DN-2700F can be easily mounted on a standard 19-inch rack.
(2) The player unit and control unit are connected by a single cord, providing greater installation freedom.
(3) Sound is produced immediately when the PLAY button is pressed. (Instant Play Start)
(4) BPM control with an analog feeling using a pitch slider.
(5) The BPM can be changed temporarily based on the already adjusted BPM. (Pitch Bend)
(6) The point at which the sound actually starts is searched for automatically when the track is selected, eliminating troublesome searching operations. (Automatic Level Search)
(7) Searching is possible in units of single frames (1/75 of a second), the minimum time unit on CDs, for maximum precision.

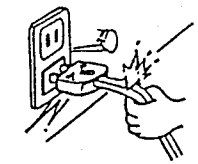
In addition to the above functions (all provided on the DN-2000F), the DN-2700F also includes the following functions:

(8) Wide BPM control (up to ±50%).
(9) The BPM adjustment range with the pitch slider can be set to ±4%, ±8% or ±50%.
(10) Two points, A and B, can be selected for uninterrupted loop playback between them. This makes looping possible using only the DN-2700F, instead of having to use a sampler as was previously the case. (Seamless Loop)
(11) A sampler function is included so that approximately six seconds of CD sound can be sampled and played. (Sampler)
(12) Comfortable searching and scanning thanks to jog and shuttle dials.
(13) The search precision can be set to either ±1 frame or ±10 frames.
(14) Memory playback with a disc identification function.
(15) Random playback with two discs.
(16) Direct access using the number keys.

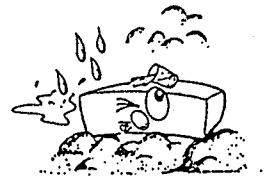
NOTE ON USE / SERVATIONS RELATIVES A L'UTILISATION / NOTAS SOBRE EL USO



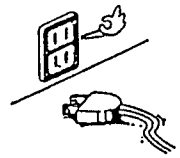
- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Eviter des températures élevées
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evite altas temperaturas
  Permite la suficiente dispersión del calor cuando está instalado en la consola.



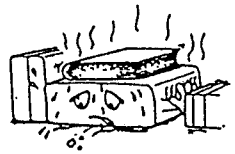
- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Maneje el cordón de energía con cuidado.
  Sostenga el enchufe cuando desconecte el cordón de energía.



- Keep the set free from moisture, water, and dust.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Mantenga el equipo libre de humedad, agua y polvo.

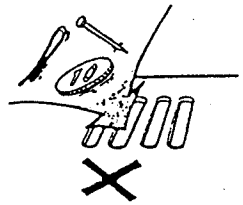


- Unplug the power cord when not using the set for long periods of time.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.

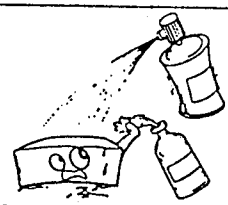


*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Ne pas obstruer les trous d'aération.
- No obstruya los orificios de ventilación.



- Do not let foreign objects in the set.
- Ne pas laisser des objets étrangers dans l'appareil.
- No deje objetos extraños dentro del equipo.



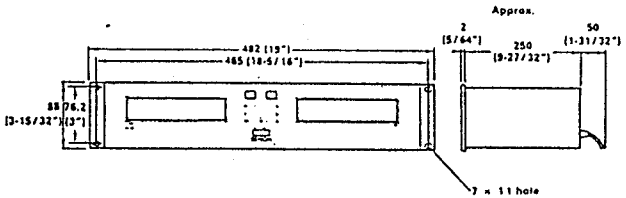
- Do not let insecticides, benzene, and thinner come in contact with the set.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.

- Never disassemble or modify the set in any way.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Nunca desarme o modifique el equipo de ninguna manera.

⑱ A (A Button)
⑰ TRACK ⏮ (Track– Button)
⑯ CUE (Cue Button)
⑮ TRACK ⏭ (Track+ Button)
⑳ PLAY/PAUSE (Play/Pause Button)
㉑ SAMPLER (Sampler Button)
㉒ B (B Button)
㉓ EXIT/RELOOP (Exit/Reloop Button)
㉔ Pitch Slider
㉕ PITCH (Pitch Button)
㉖ 4% (4% Button)
㉗ 8% (8% Button)
㉘ 50% (50% Button)
㉙ PITCH BEND– (Pitch Bend– Button)
㉚ PITCH BEND+ (Pitch Bend+ Button)
㉛ Beat Indicator
㉜ 1 (CD1 Button)
㉝ 2 (CD2 Button)
㉞ CALL (Call Button)
㉟ END (End Button)
㊱ CLEAR (Clear Button)
㊲ 0 ~ 9 (Number Buttons)
㊳ RANDOM (Random Button)
㊴ STORE (Store Button)
㊵ MEMORY CUE (Memory Cue Button)
㊶ LINE OUT (Output Jack)
㊷ REMOTE (Control Connector)
㊸ Voltage Selector
(Multi-voltage models only)
㊹ Control Connector

DIMENSIONS

DN-2700F



REAR PANEL

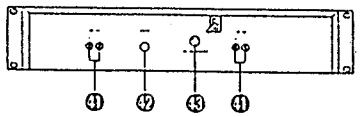
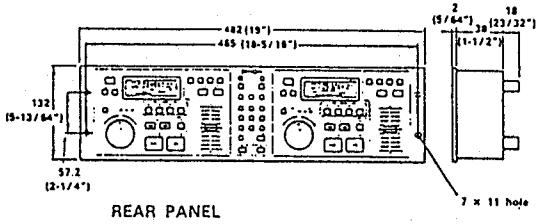


Figure 3

RC-37



REAR PANEL

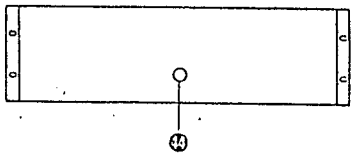


Figure 4

LCD

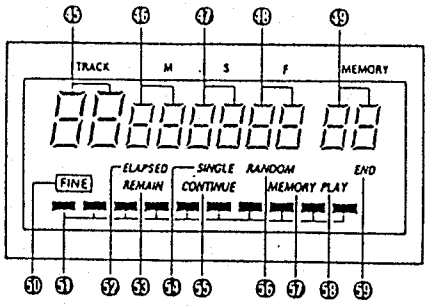


Figure 5

㊺ TRACK (Track Display)
㊻ MINUTE (Minute Display)
㊼ SECOND (Second Display)
㊽ FRAME (Frame Display)
㊾ MEMORY (Memory Number Display)
㊿ FINE (Fine Search Indicator)
(51) Bar Indicator
(52) ELAPSED (Elapsed Time Indicator)
(53) REMAIN (Remaining Time Indicator)
(54) SINGLE (Single Indicator)
(55) CONTINUE (Continue Indicator)
(56) RANDOM (Random Indicator)
(57) MEMORY (Memory Indicator)
(58) PLAY (Play Indicator)
(59) END (End Indicator)

DN-2700F MAIN UNIT

FRONT PANEL

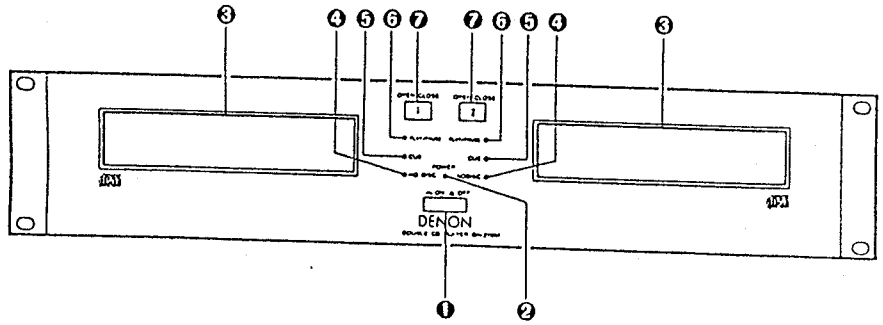


Figure 1

RC-37 CONTROL UNIT

FRONT PANEL

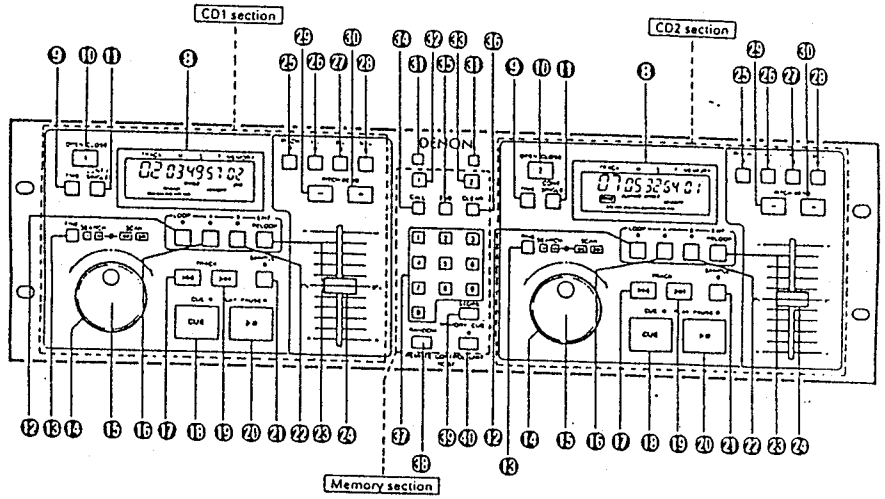


Figure 2

DN-2700F FRONT PANEL

❶ POWER (Power ON/OFF Switch)
❷ POWER (Power On Indicator)
❸ Disc Holder
❹ NO DISC (No Disc Indicator)
❺ CUE (Cue Indicator)
❻ PLAY/PAUSE (Play/Pause Indicator)
❼ OPEN/CLOSE (Open/Close Button)

RC-37 FRONT PANEL

❽ LCD (Liquid Crystal Display)
❾ TIME (Time Button)
❿ OPEN/CLOSE (Open/Close Button)
⓫ CONT./SINGLE (Continue/Single Button)
⓬ LOOP (Loop Button)
⓭ FINE (Fine Searth Button)
⓮ Shuttle Dial
⓯ Jog Dial

1 PREPARATIONS

(1) Checking the Contents

Check that the carton contains the following items:

① DN-2700F (main unit)
② RC-37 (control unit)
③ Operating instructions (this booklet)
④ Pair of RCA pin cords
⑤ Control cord (5-meter, feet)

(2) Installing the Units

Mount the units onto your console or rack with 19" EIA rack rails.

CAUTION:

- The DN-2700F will work normally when the main unit is mounted with the front panel at within 20 degrees of the vertical plane. If the unit is tilted excessively, discs may not be loaded or unloaded properly. (Figure 6)
- The RC-37's LCDs are designed to be clearly visible within the angles shown in Figure 7. Mount the RC-37 so that the visual angle is within this range.

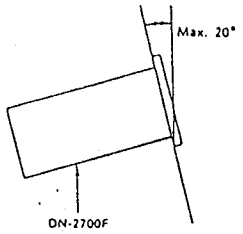


Figure 6

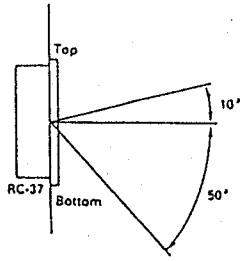


Figure 7

(3) Connections

① Turn off the POWER switch.
② Connect the RCA pin cords to the inputs on your mixer.
③ Connect the control cord to the REMOTE connector on the RC-37.

CAUTION:

- Be sure to use the supplied control cord. Using another type of cable may result in damage.
- Be sure the power is off when connecting the control cord. Otherwise the units may not work properly.

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㉔ Pitch Sliders
Use these sliders to adjust the BPM. Slide up to decrease the BPM, down to increase the BPM.

㉕ PITCH Buttons
Use these buttons to enable or disable BPM adjustment with the pitch sliders. BPM adjustment with the pitch sliders is enabled when the PITCH LED is lit.

㉖ ㉗ ㉘ 4%, 8% and 50% Buttons
Use these buttons to select the range of BPM adjustment with the pitch sliders.

㉙ ㉚ PITCH BEND− and PITCH BEND+ Buttons
The BPM varies while these buttons are pressed. Release the buttons to return to the original BPM.

㉛ BEAT Indicators
These indicate the beat of the music currently playing.

㉜ ㉝ 1 and 2 Buttons
Use these buttons to select which player the number buttons will function for.

㉞ CALL Button
Press this button to call memory data.

㉟ END Button
Press this button to input data on the position at which playback will end using the number buttons. When pressed, the END indicator on the LCD lights.

㊱ CLEAR Button
Press this button to clear the data which was input using the number buttons.

㊲ 0 ~ 9 Buttons (Number Buttons)
Use these buttons to input track numbers and times (minutes and seconds).

㊳ RANDOM Button
Press this button to prepare the player for random playback.

㊴ STORE Button
Use this button to store data set with the number keys in the memory.

㊵ MEM CUE Button
Use this button to prepare for memory playback according to the pre-stored data.

(3) DN-2700F (Main Unit) Rear Panel

㊶ LINE OUT 1 and 2
The audio signals from each player are output from these jacks.

㊷ REMOTE
Connect this connector to the RC-37 control unit using the included control cord.

㊸ Voltage Selector (. ·voltage models only)
On multi-voltage models, use this to select the power voltage. Always disconnect the power plug before changing the voltage.

(4) RC-37 (Control Unit) Rear Panel

㊹ Control Connector
Connect this connector to the REMOTE connector on the DN-2700F (main unit) using the included control cord.

(5) LCD

㊺ ㊻ ㊼ ㊽ TRACK, MINUTE, SECOND and FRAME Displays
These displays indicate information on the current position and time.

㊾ MEMORY Displays
These indicate the memory step number while the memory is being set or during memory playback.

㊿ FINE Indicators
These indicate that the sound will move by one frame per click of the jog dial during the search operation.

(51) BAR Indicator
These ten indicators provide a visual display of the approximate position of the pickup within the current track.

(52) ELAPSED Indicators
These indicate that the time shown on the display is the elapsed time.

(53) REMAIN Indicators
These indicate that the time shown on the display is the remaining time.

(54) SINGLE Indicators
When these indicators are lit, playback will stop at the end of the track.

(55) CONTINUE Indicators
When these indicators are lit, playback will continue until the end of the disc.

(56) RANDOM Indicators
These light during random playback and preparation for random playback.

(57) (58) MEMORY and PLAY Indicators
The MEMORY indicators light or blink when data has been stored in the memory. The PLAY indicators light during memory playback.

(59) END Indicators
These indicators light when the END button is pressed.

2 NAMES AND FUNCTIONS

Below is a description of the functions of the controls listed on Pages 6 and 7.

(1) DN-2700F (Main Unit) Front Panel

❶ ❷ POWER (Power Switch and Indicator)
When the POWER switch is pressed, the power turns on and the POWER indicator lights.

❸ Disc Holders
Place the discs in these holders. Press the OPEN/CLOSE buttons to open and close the disc holders.

❹ NO DISC Indicators
These indicators light when the disc holders are open or when no discs are loaded.

❺ CUE Indicators
These indicators light during the cueing operation.

❻ PLAY/PAUSE Indicators
These indicators light during playback and flash when in the pause mode.

❼ OPEN/CLOSE Buttons
Press these to open and close the disc holders. The control unit also includes OPEN/CLOSE buttons. The disc holders cannot be opened during playback, so stop playback before pressing these buttons.

(2) RC-37 (Control Unit) Front Panel

❽ LCD
These liquid crystal displays (LCDs) indicate the track numbers, minutes, seconds, frames and memory step numbers.

❾ TIME Buttons
These buttons switch the time display between the elapsed time and remaining time. The selected mode is indicated by the ELAPSED and REMAIN indicators on the LCD.

❿ OPEN/CLOSE Buttons
Press these to open and close the disc holders. The main unit also includes OPEN/CLOSE buttons. The disc holders cannot be opened during playback, so stop playback before pressing these buttons.

⓫ CONT./SINGLE Buttons
Press these to switch between the single and continuous play modes. The selected mode is indicated by the SINGLE and CONTINUE indicators on the LCD.

⓬ LOOP Buttons
Press these buttons to start loop mode. The LOOP LED lights during loop playback.

⓭ FINE Buttons
Use these buttons to select the number of frames be moved with one click of the jog dial wh searching. When the fine mode is set, the FI indicator appears on the display, and the pict moves one frame for each click of the jog dial. Wh the FINE indicator is off, the pickup moves 10 fram with each click.

⓮ Shuttle Dials
Use these dials to select the scanning direction a speed. The disc is scanned in the forward direct when the shuttle dial is turned clockwise from neutral position, in the reverse direction when shuttle dial is turned counterclockwise. The scann speed increases when the shuttle dial is tur further.

⓯ Jog Dials
When these dials are turned during the sea operation, the point at which the sound is be produced moves by a number of frames correspo ing to the number of clicks (1 or 10 frames per cli

⓰ A Buttons
Use these buttons to set the starting point for l playback. They can also be used as extra cue but when not in the loop mode.

⓱ ⓳ TRACK ⏮ and TRACK ⏭ Buttons
Use these buttons to select the track to be pla

⓲ CUE Buttons
Press the CUE buttons during playback to retur the position at which playback started. The play ready to play when the CUE LED stops flash remaining lit.

⓴ PLAY/PAUSE Buttons
Use these buttons to start playback. Press onc start playback, once again to set the pause m and once more to resume playback.

㉑ SAMPLER Buttons
Press these buttons to start recording the san Press the PLAY/PAUSE button after recording t the sample play mode.

㉒ B Buttons
Use these buttons to set the end point for playback. They can also be used as extra cue bu when not in the loop mode.

㉓ EXIT/RELOOP Button
Press these buttons during loop playback to loop playback and return to normal playback (e to return to loop playback (reloop).

(3) Starting Playback

- Press the PLAY/PAUSE button during the pause or cue to start playback.
- The sound is produced as soon as the button is pressed. (Instant Play Start)
- The PLAY/PAUSE LED lights when playback starts.
- The point at which playback starts is automatically stored in the memory as the cue point. The pickup then returns to the cue point (the point at which playback started) when the CUE button is pressed. (Back Cue)

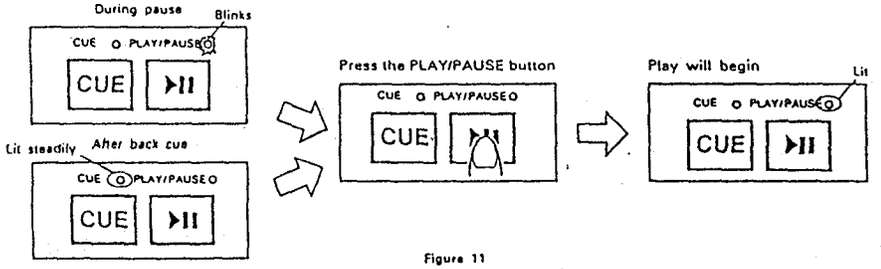


Figure 11

- When the SINGLE indicator is lit, playback stops automatically at the end of that track.
- When the CONTINUE indicator is lit, playback continues until the end of that disc.

(4) Stopping Playback

- There are two ways to stop playback.
  ① Press the PLAY/PAUSE button during playback to pause at that point.
  ② Press the CUE button during playback to return to the position at which playback started. (Back Cue)

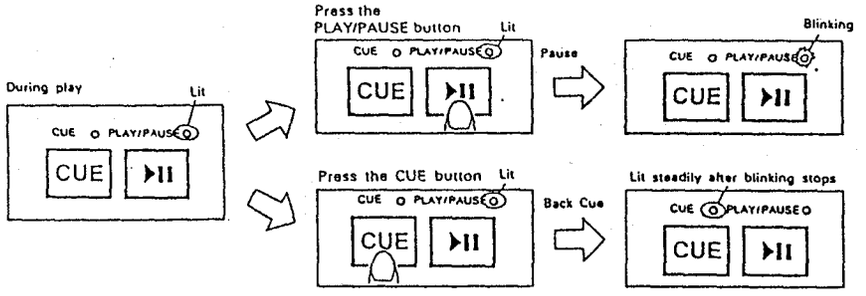
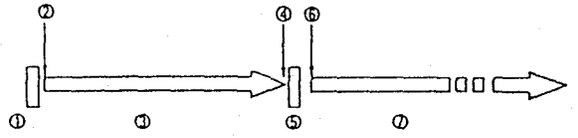


Figure 12

(5) Pausing

- Press the PLAY/PAUSE button to switch between the play and pause.
- The PLAY/PAUSE LED blinks when the pause mode is set.
- Figure 13 shows the relationship between the play and pause.



① The player has completed the cue or pause operation and is waiting for the play start command.
② When the PLAY/PAUSE button is pressed, playback starts and the cue point is stored in the memory.
③ Playing
④ The pause mode is set when the PLAY/PAUSE button is pressed again.
⑤ Pausing
⑥ Playback resumes when the PLAY/PAUSE button is pressed again.
⑦ Playing

Figure 13

3 BASIC OPE :IONS

(1) Opening and Closing the Disc Holder and Loading Discs

① Opening and closing the disc holder

- This operation only works when the power is on.
- Press the OPEN/CLOSE button to open or close the disc holder. OPEN/CLOSE buttons are provided on both main unit and control unit (RC-37).
- The disc holders cannot be opened during playback to prevent playback from being interrupted if OPEN/CLOSE button is pressed accidentally. Stop playback, then press the OPEN/CLOSE button.

② Loading discs

- Hold the disc by the edges and place it in the disc tray. Do not touch the signal surface (the glossy s
- When using 12cm discs, place the disc in the outer tray guides (Figure 8), and when using 8cm discs, place securely in the inner guides (Figure 9).

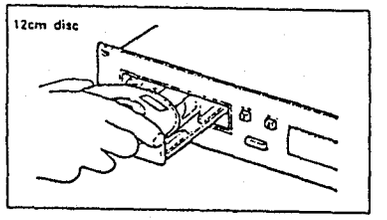


Figure 8

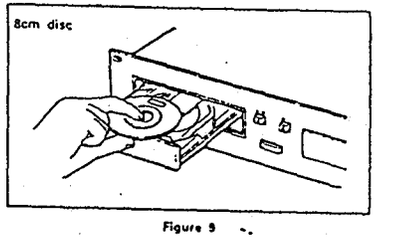


Figure 9

CAUTION:

- Do not place any foreign objects in the disc tray, and do not place more than one disc in the disc tray at a Doing so may result in malfunction.
- Do not push the disc tray in manually when the power is off, as this may result in malfunction and damag player.

(2) Selecting Tracks

- Press the TRACK buttons once to move to one higher or lower track.
- Hold the TRACK buttons in to change tracks continuously at a higher speed.
- When a new track is selected during playback, playback begins as soon as the search operation is comp
- Tracks can also be selected while the disc holder is open. The selected track is searched for when the disc ho closed.
- If the TRACK ▶▶I button is pressed while at the last track, the first track is selected. In the same way, TRACK I◀◀ button is pressed while at the first track, the last track is selected.

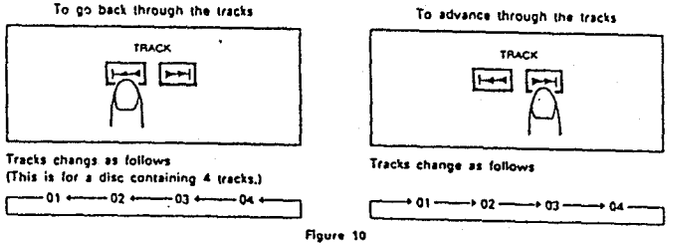

To go back through the tracks
TRACK
Tracks changs as follows
(This is for a disc containing 4 tracks.)
01 ← 02 ← 03 ← 04
To advance through the tracks
TRACK
Tracks change as follows
01 → 02 → 03 → 04

Figure 10

- With the DN-2700F, once a track is searched for, the position at which the sound begins is found automatical the pickup cues there. This makes it easy to skip silent sections at the beginning of tracks. (Automatic Level Se

(8) Scanning

- Scanning is a function for moving quickly forward or backward while monitoring the sound, and is used for example for monitoring entire tracks.
- Turn the shuttle dial while the player is in the play, pause or cue modes to begin scanning. The disc moves rapidly forward or backward and the sound is output. The current point (scan point) is indicated on the LCD.
- The scanning speed depends on how far the shuttle dial is turned. The more it is turned, the faster the scanning speed.
- Turn the shuttle dial clockwise to scan in the forward direction, counterclockwise to scan in the reverse direction.

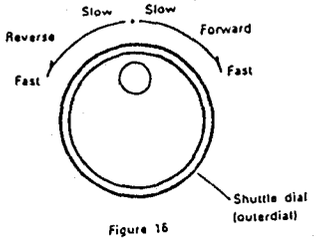


Figure 16

- The scanning point indicated on the LCD is automatically stored in the memory as the cue point.
- When the shuttle dial is released during scanning, it returns to the neutral position, scanning stops and the search mode is set. However, if scanning was started in the play mode, playback resumes.

4 MATCHING THE BEATS PER MINUTE (BPM)

- With the DN-2700F, there are two ways to adjust the playing speed and match the BPMs of the two CDs:
  - Use the pitch slider to adjust the BPM statically. One of three adjustment ranges can be selected.
  - Use the PITCH BEND buttons to change the BPM temporarily. Use this after adjusting the BPM with the pitch slider.

(1) Pitch Slider

- To adjust the BPM by sliding the pitch slider up or down, first press the PITCH button to turn on the PITCH LED.
- With the pitch slider, the pitch can be adjusted within one of three ranges (±4%, ±8% or ±50%). The LEDs indicate which range is selected.
- The BPM decreases when the pitch slider is moved upwards, increases when the pitch slider is moved downwards.

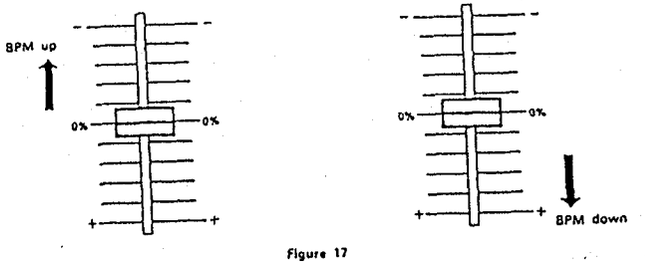
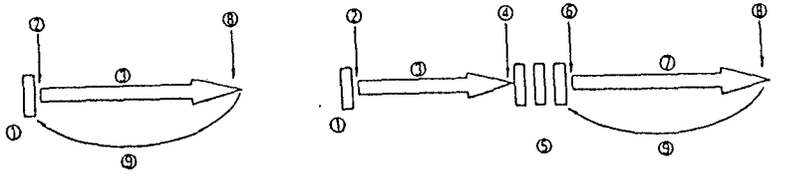


Figure 17

(6) Cueing

- "Cueing" is the action of preparing for playback. When the PLAY/PAUSE button is pressed during the cue mode playback starts immediately. (Instant Play Start)
- When the track search operation is completed after pressing the TRACK buttons, the player automatically finds the position at which the sound starts and cues there. (Automatic Level Search)
- If the CUE button is pressed during the search operation with the jog dial or the scanning operation with the shuttle dial, the point at which the button is pressed is stored in the memory as the cue point and cueing starts.
- Figure 14 shows the relationship between the play and back cue operations.



(A) Play and cue

(B) Play, pause and cue

① The player has completed the cue or pause operation and is waiting for the play start command.
② When the PLAY/PAUSE button is pressed, playback starts and the cue point is stored in the memory
③ Playing
④ The pause mode is set when the PLAY/PAUSE button is pressed again.
⑤ Pausing
⑥ When the PLAY/PAUSE button is pressed again, playback resumes and the new cue point is stored in the memory.
⑦ Playing
⑧ Press the CUE button.
⑨ The pickup returns to the cue point. (Back Cue)

Figure 14

(7) Searching

- Searching is a function for monitoring the sound at a certain section of the disc and manually changing the position. Searching is used to set play start points with precision.
- Turn the jog dial while in the play, pause or cue mode to begin searching. The sound for one revolution of the disc is output repeatedly. The point at which the sound starts (the search point) is indicated on the LCD.
- When the jog dial is turned, the point from which the sound is output moves a number of frames corresponding to the number of clicks, and the time display on the LCD also changes.
- There are two settings for the number of frames moved per click, switched with the FINE button. When the FINE indicator is lit, the disc moves 1 frame for each click, and when it is off, the disc moves 10 frames with each click. The FINE indicator turns on and off each time the FINE button is pressed.
- The search point moves in the forward direction when the jog dial is turned clockwise, in the reverse direction when the jog dial is turned counterclockwise.

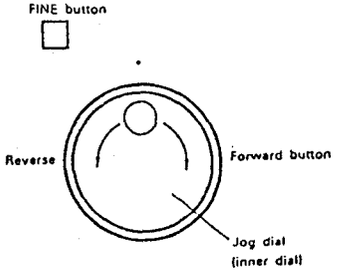


Figure 15

- The search point displayed on the LCD during search operation is automatically stored in the memory as the cue point.
- If the jog dial was first turned in the play mode, playback resumes automatically once the jog dial is released.

(2) Playing the Sample

- Sample playback begins when the PLAY/PAUSE button is pressed while the SAMPLER LED is lit and the sample is ready to be played. The recorded sound is played.
- If the PLAY/PAUSE button is pressed again while the sample is playing, the sample is played over from the beginning. Repeat this to play the recorded sample repeatedly with the desired timing.
- Playback stops when the end of the recorded sample is reached.
- If the CUE button is pressed while the sample is playing, playback stops immediately.

(3) Cancelling the Sampler Mode

- Only sampler functions can be used when in the sampler mode. The sampler mode must be cancelled to use the normal functions.
- Press the SAMPLER button again to cancel the sampler mode and return to normal operation.

6 LOOP

- The DN-2700F's loop function makes it possible to play loops using the player alone, instead of using a separate sampler as is usually necessary.

(1) Basic Loop Operation

① Loop mode

- The player must be set to the loop mode to start loop operations.
- Press the LOOP button. The LOOP LED blinks and the loop mode is set.

② Setting the loop start point

- The loop start and end points must be set before playing loops. Use the A button to set the start point, the B button to set the end point.
- Press the A button while the player is in the play, cue, pause or search mode. That point is stored in the memory as the loop start point and the A LED lights.
- To set the start point with greater precision, use the search function to find the desired point, then press the A button.
- Once the A button is pressed, the disc continues playing until the B button is pressed.

③ Setting the loop end point (preparation for loop playback)

- Press the B button while the disc is playing after the loop start point is set. That point is set as the loop end point and the B LED lights.
- The player then prepares for loop playback. Once preparations are completed, the PLAY/PAUSE LED starts flashing, and LOOP LED.
- The loop end point cannot be set at a point before the loop start point.

④ Loop playback

- Once the player is ready for loop playback, press the PLAY/PAUSE button. Loop playback begins from the start point.
- When the end point is reached, playback starts over immediately from the loop start point (seamless loop). This operation is repeated.

(2) Advanced Loop End Point Setting

- If you want to set the loop end point at a position far after the start point, some time is required until the end point is reached. The track search, scan and search functions can be used to find the end point more quickly.
- Use the track search function if the end point is in another track. Scanning can also be used to move quickly through the disc while monitoring the sound.
- Use the search function once the end point approaches. Press the B button once you reach the end point.

(2) Pitch Bending

- The BPM increases or decreases respectively while the PITCH BEND+ or PITCH BEND– button is presse
- The extent to which the BPM changes is proportionate to the amount of time the button is pressed. For exampl the PITCH BEND+ button is held in continuously, the BPM increases continuously.
- The BPM changes within a range of ±10% when the 4% or 8% LED is lit, within a range of ±50% when the 50% is lit.
- Figure 18 shows an example of how to use the pitch bend function. In this example, both players are playing anc BPM has already been matched with the pitch sliders.

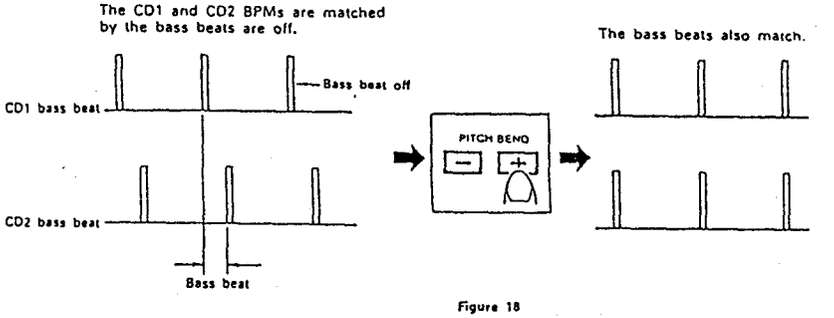

The CD1 and CD2 BPMs are matched by the bass beats are off.
The bass beats also match.
Bass beat off
CD1 bass beat
CD2 bass beat
PITCH BEND
Bass beat

Figure 18

CAUTION: Playability may decrease for some discs when adjusting the BPM in the ±50% range.

5 SAMPLER

The DN-2700F includes a function for recording and playing sections of sound approximately 6 seconds in length fo of the two players. This sampler function eliminates the need for a separate sampler.

(1) Recording the Sample

- The sample must first be recorded before playing it. Press the SAMPLER button to start recording. The SAM LED blinks during sampler recording.
- The sound actually being recorded is produced during recording, so the sound can be monitored.
- When recording is completed, the SAMPLER LED stops blinking, remaining lit, indicating that the sample is re be played. Playback also stops.
- The SAMPLER button will function when the player is in the play, cue, pause or search mode.

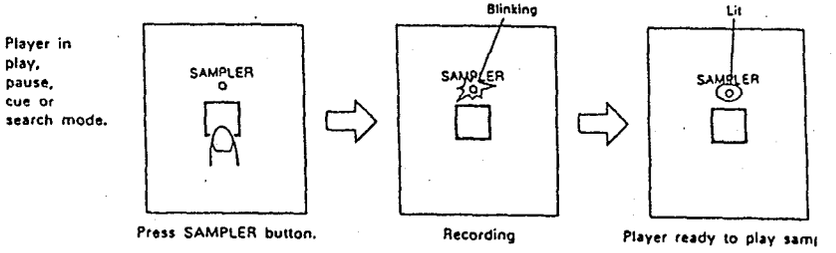


Figure 19

- To record a sample less than 6 seconds long, press the CUE button while the sample is being recorded. Re stops immediately and the sample is now ready to be played.

7 MEMORY

- The DN-2700F has a function for identifying and registering discs and based on data stored in the memory. The data necessary for memory playback can also be input using the number keys. These two functions can be used together for memory playback of specific discs only.
- This memory function is for use with two discs loaded in CD1 and CD2.

(1) Disc Identification

- The disc identification data is prepared automatically when a disc is loaded in the disc holder and the disc holder is closed.
- When memory playback data is included in this identification data, this data is also registered, so memory playback is not possible with other discs. In other words, memory playback is only possible for certain discs.
- The same discs as when the memory data was input must be loaded in order to perform memory playback.
- A maximum of 16 discs can be identified.

(2) Types of Memory Playback Data

- The memory data must be stored in advance in order to perform memory playback. There are two types of memory data:
  - Type 1 — play start data
  - Type 2 — play start and play end data

  Each of these types includes two elements:
  - Element 1 — track number only
  - Element 1 — track number and time
- Input the memory data using the number keys.
- Up to 99 steps of memory data can be stored. For type 2, however, the end data is also counted as one step.

① Type 1 — Play Start Data
- This is data concerning the position for starting memory playback.
- When playback is started with this data, playback stops at the end of that track.
- Two elements of data can be set, the track number only, or the track number and the time.

② Type 2 — Play Start and End Data
- This is data concerning the positions for starting and ending memory playback.
- When playback is started with start data, playback stops at the position specified by the end data.
- Two elements of data can be set, the track number only, or the track number and the time.

③ Element 1 — Track Number Only
- For play start data specifying a certain track number, the actual starting point is the position at which the sound starts on the specified track. In other words, the silent sections at the beginning of tracks are omitted when using memory playback.
- When a track number is specified as the play end data, playback stops at the end of that track.
- Use the number keys to specify the track number.

④ Element 2 — Track Number and Time
- When the track number and time are specified, playback starts or ends at the specified time on the specified track.

(3) Starting Loc ayback from a Point Before the Start Point

- After the loop start and end points have been set, the point at which playback starts can be moved to a point bef the loop start point.
- Use this function for the tricky operation of switching from normal playback to repeated playback of a cert section of a track.

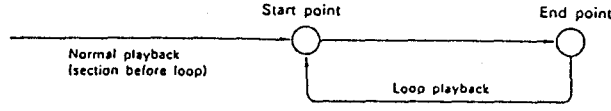


Figure 20

(4) Exit and Reloop

- These functions are unique to the DN-2700F. Use the exit function to exit from loop playback, the reloop funct to return to loop playback.

① Exit
- Press the EXIT/RELOOP button during loop playback. When this is done, normal playback is set after the s point is passed and the disc continues playing without returning to the start point after the end point is reach

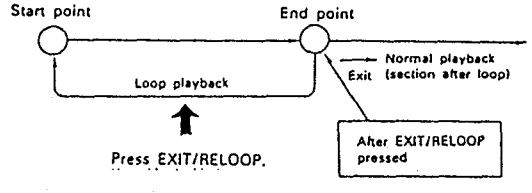


Figure 21

- The operation shown in Figure 20 can be combined with the exit function to play a certain section of a tr repeatedly as many times as desired, stretching out the song. (Figure 22)

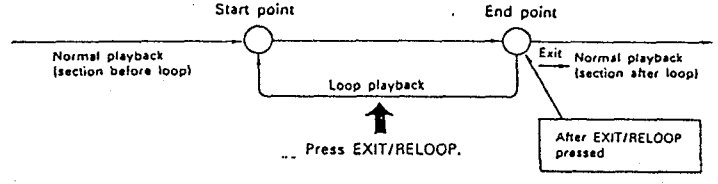


Figure 22

② Reloop
- The reloop function is set by pressing the EXIT/RELOOP button again during normal playback after exiting l playback. Loop playback resumes.

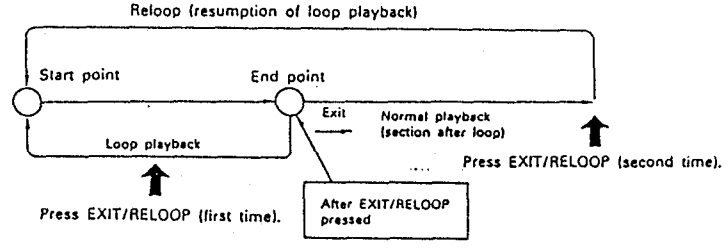
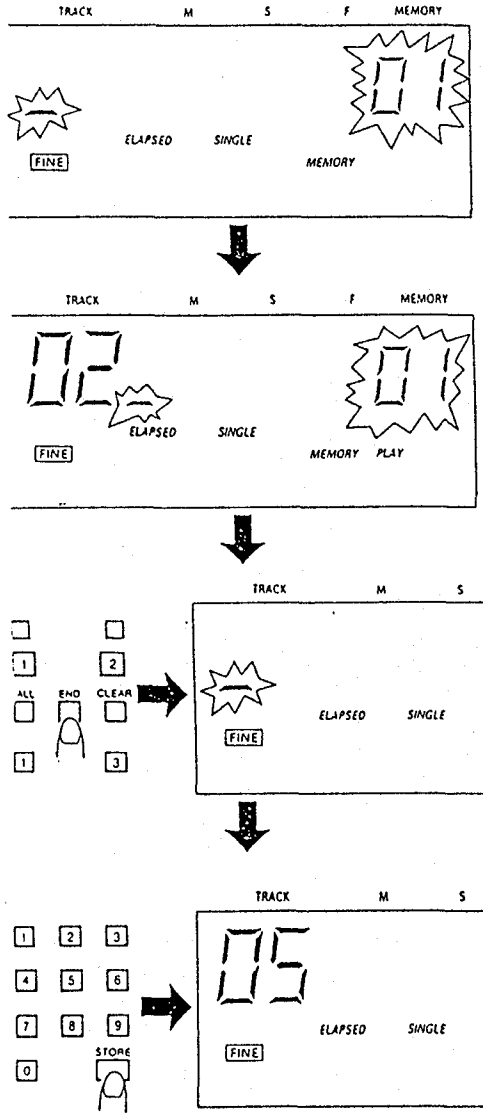


Figure 23

② Storing both start and end track data (tracks 02 to 05 in this example)



1. Press button [1] or [2] above the numerical keypad to select the disc holder for which the data is to be input. "01" flashes on the MEMORY section of the LCD, and the cursor flashes at the tens place of the TRACK display. The "END" indicator is off at this point.

2. Use the number keys to input the digit for the tens place of the track number. The number of the key pressed appears on the LCD and the cursor moves to the ones place. When the digit for the ones place is input, the cursor moves to the tens place of the MINUTE display.

3. Press the END button. The start track number is stored in the memory, and the end track number can now be set. The cursor flashes at the tens place of the TRACK display and the "END" indicator lights.

4. After inputting the two digits of the end track number using the number keys, press the STORE button to store the input data in the memory. The cursor disappears and the MEMORY display stops flashing.

Figure 25

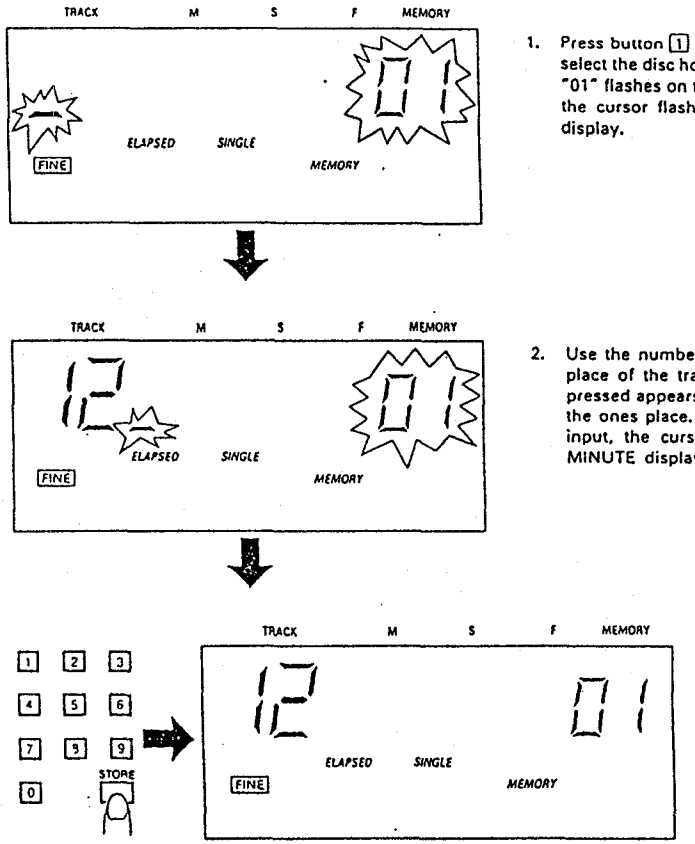
Repeat steps 1 to 4 above to store multiple sets of data. The MEMORY display increases by one each time a new set of data is stored.

CAUTION: The TRACK display flashes if a track number not included on the disc is input.

(3) Inputting the ıory Data

Here we will use examples to demonstrate how memory data is input. In all these examples, discs must be loa both the disc holders.

① Storing start track data only (track 12 in this example)



1. Press button [1] or [2] above the numerical key select the disc holder for which the data is to be "01" flashes on the MEMORY section of the LCI the cursor flashes at the tens place of the T display.

2. Use the number keys to input the digit for th place of the track number. The number of t pressed appears on the LCD and the cursor mo the ones place. When the digit for the ones p input, the cursor moves to the tens place MINUTE display.

3. Press the STORE butto input data is now sto the memory. The curs appears and the ME display stops flashing

Figure 24

Repeat steps 1 to 3 above to store data for multiple tracks. The MEMORY display increases by one each time set of data is stored.

CAUTION: The TRACK display flashes if a track number not included on the disc is input.

(4) Clearing the Memory Data

- Press the CLEAR button before pressing the STORE button to clear the data c itly being input.
- The data can also be cleared after the STORE button is pressed. When the step you want to clear is displayed on the LCD, press the CLEAR button, then press the STORE button to clear that step. This is also possible in the memory call mode.
- To clear all the data stored in the memory, press the CLEAR button twice then press the STORE button.

(5) Executing Memory Playback

① Load the discs for which the memory data has been input. If memory data has been input for two discs, load both discs. The MEMORY indicator on the LCD flashes when the player identifies the disc(s) and recognizes that they are discs for which memory data has been set.

② Press the MEMORY CUE button to prepare for memory playback. The MEMORY CUE LED flashes and preparations begin. When only track data has been set, the end of the sound on that track is found (End Detect), so more time is required than for the normal cueing operation.

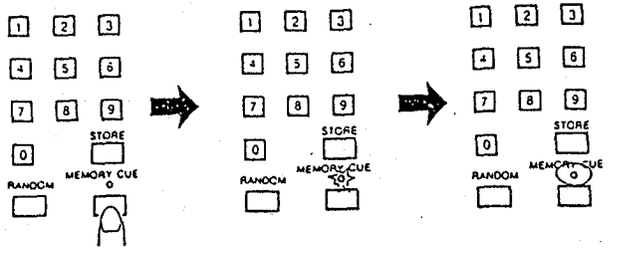


Figure 27

③ Once preparations for memory playback are completed, the MEMORY CUE LED stops flashing, remaining lit, and the play start position stored in the memory appears on the LCD. When memory data has been set for two discs, "01" is displayed at the MEMORY section of the LCD for one of the discs, "02" on the LCD for the other disc.

④ Press the PLAY/PAUSE button for the side on which "01" is displayed at the MEMORY section of the LCD to start memory playback. The "MEMORY PLAY" indicator appears on the LCD.

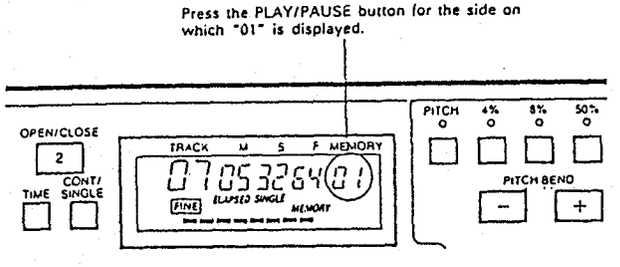
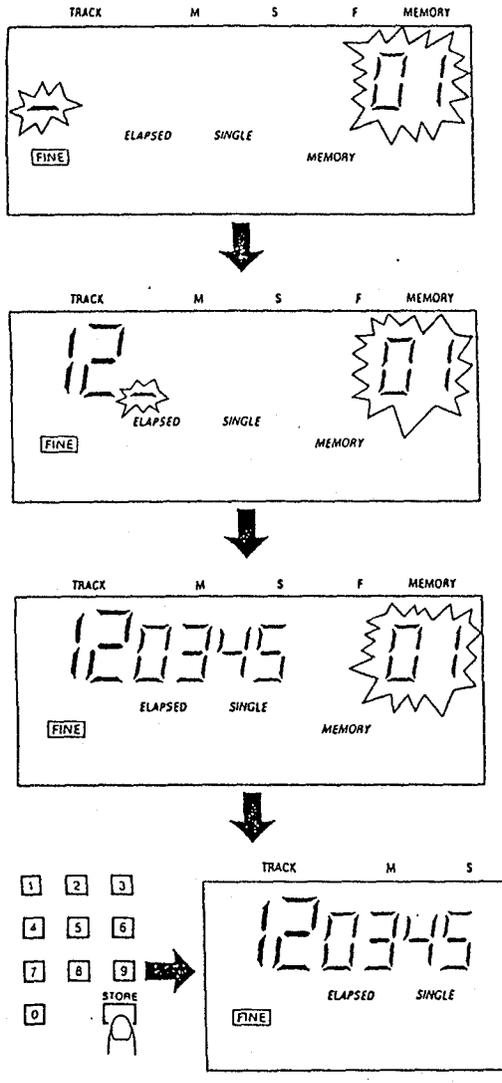


Figure 28

③ Storing the s• track and time data (track 12, 03:45 in this example)



1. Press button [1] or [2] above the numerical keypad select the disc holder for which the data is to be inpı "01" flashes on the MEMORY section of the LCD, ai the cursor flashes at the tens place of the TRAC display.

2. Use the number keys to input the digit for the te place of the track number. The number of the k pressed appears on the LCD and the cursor moves the ones place. When the digit for the ones place input, the cursor moves to the tens place of t MINUTE display.

3. Input the minutes and seconds in the same way as track number.

4. Press the STORE button store the input data in memory. The cursor appears and the MEMC display stops flashing.

Figure 26

Repeat steps 1 to 4 above to store multiple sets of data. The MEMORY display increases by one each time a nev of data is stored.

CAUTION: If a track number or time not included on the disc is input, the incorrect data flashes.

② Now press the CUE button to move to the displayed position.

③ Once the CUE LED lights, turn the jog dial to begin searching. The frame display appears on the LCD.

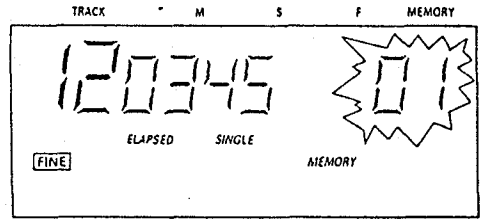


Figure 30

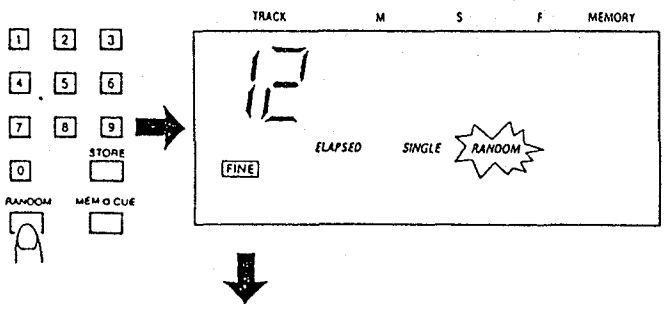
④ Monitor the sound, and when the desired position is reached, press the STORE button to store the data for that position in the memory. The search mode is cleared and the memory number on the LCD stops flashing, remaining lit. Now proceed using the regular input procedure.

8 RANDOM PLAYBACK

- Random playback is a function for playing the tracks on the discs in CD1 and CD2 alternately and in random order.

(1) Preparing for Random Playback

- Load discs in both disc holders then press the RANDOM button. The DN-2700F now prepares for random playback. Tracks are selected at random from each of the discs and displayed on the LCDs. Once preparations are completed, the CUE LED for the side to be played first lights.



- When discs are loaded in each of the disc holders and the RANDOM button is pressed, the RANDOM indicator flashes on the display and preparations for random playback begin.

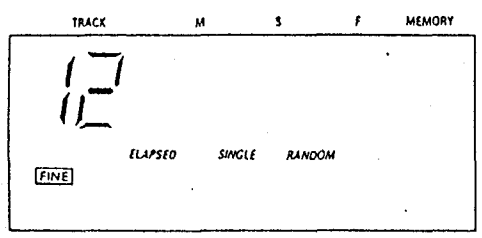


Figure 31

- When preparations are completed, the RANDOM indicator and track number stop flashing, remaining lit, and the CUE LED for one of the sides lights.

⑤ In order to elim silent sections when no time data is stored in the memory and when the next memory ste for the other disc, playback starts at the position at which the sound starts on the track specified for the other disc soon as the end of the sound on the track specified for the first disc is reached.

⑥ If the SINGLE indicator is lit, playback stops once the last track set in the memory is played, and the MEMORY C LED starts flashing again, then stops flashing, remaining lit. If the CONTINUE indicator is lit, playback resumes fr the beginning of the first track in the memory.

⑦ Press the MEMORY CUE, PLAY/PAUSE or CUE button to interrupt memory playback. The operation differs follows depending on which button is pressed:

MEMORY CUE button	Preparing for memory playback.
PLAY/PAUSE button	Pausing at that point.
CUE button	Back cue to the point at which it started for that track.

⑧ To cancel the memory play mode, open the disc holder.

(6) Memory Call

- The memory data can be displayed on the LCD and edited directly after inputting it or when discs for which memory has been set is loaded in the disc holders.
- Nothing will happen if the CALL button is pressed when discs for which no memory has been set is load

① Displaying the memory data

- Press the CALL button to set the memory call mode. The data for memory step 01 appears on the disp
- Press the CALL button again to move ahead to the next step.
- If a two-digit number is input using the number keys while in the memory call mode, the data for corresponding step appears on the LCD when the CALL button is pressed.

② Clearing the memory data

- Press the CLEAR button after displaying the step you want to clear. The step number begins flashing. Now p the STORE button to clear that step.

③ Inserting memory data

- First call out the step before the one you want to insert.
- Now press the STORE button to set the memory input mode. Data can be inserted using the regular data i procedure.

④ Changing memory data

- Call out the step whose data you want to change then input the new data using the regular procedure. changes the memory data.

(7) Advanced Memory Functions

Inputting the time using the search and scan functions

- After inputting the track, minutes and seconds using the number keys, the search and scan functions can be to set the start and end points while monitoring the sound.

① Input the track, minutes and seconds using the regular input procedure. (Refer to Figure 26) For example, if track 12, 03:45 is input, the display reads as shown in Figure 29.

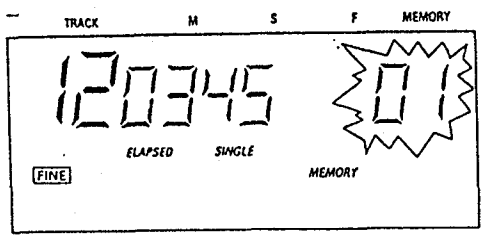


Figure 29

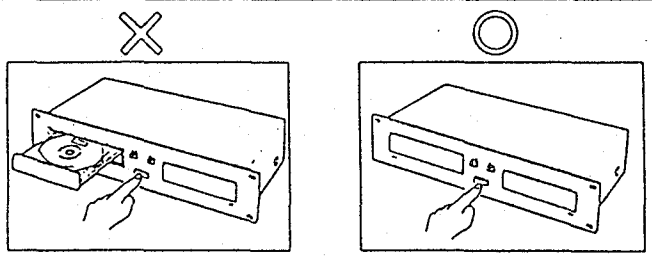
9 DIRECT ACCESS

- Specific positions on the disc can be accessed directly by using the number keys and the CUE and PLAY/PAUSE buttons.
- Select the disc and input the track number and time (minutes and seconds) in the same way as when setting the memory.
- Press the CUE or PLAY/PAUSE button once the point to be accessed directly appears on the LCD.
- If the CUE button is pressed, the pickup moves to the displayed position and cues there.
- If the PLAY/PAUSE button is pressed, playback begins from the displayed position.

10 BEFORE SWITCHING OFF THE POWER

When you have finished using the CD player, before switching off the power be sure that the disc holder has been closed with the OPEN/CLOSE button.

> CAUTION:
> Do not forcibly close the disc holder when the power is off.
> It may damage the unit when it is transported.



Do not switch off the power when the disc holder is open.
POWER OFF

Switch off the power after the disc holder has been closed with the OPEN/CLOSE button.
POWER OFF

Figure 34

11 COMPACT DISCS

1. Precautions on handling compact discs
   - Do not allow fingerprints, oil or dust to get on the surface of the disc.
     If the disc is dirty, wipe it off with a soft dry cloth. We recommend using DENON's AMC-20/21 CD CLEANER.
   - Do not use benzene, thinner, water, record spray, electrostatic-proof chemicals, or silicone-treated cloths to clean discs.
   - Always handle discs carefully to prevent damaging the surface; in particular when removing a disc from its case or returning it.
   - Do not bend the disc.
   - Do not apply heat.
   - Do not enlarge the hole in the center of the disc.
   - Do not write on the label (printed side) with a hard-tipped implement such as a pencil or ball point pen.
   - Condensation will form if a disc is brought into a warm area from a colder one, such as outdoors in winter. Do not attempt to dry the disc with a hair dryer, etc.

2. Precaution on storage
   - After playing a disc, always unload it from the player.
   - Always store the disc in the jewel case to protect from dirt or damage.
   - Do not place discs in the following areas:
     1) Areas exposed to direct sunlight for a considerable time.
     2) Areas subject to accumulation of dust or high humidity.
     3) Areas affected by heat from indoor heaters, etc.

(2) Executing Ra n Playback

- Press the PLAY/PAUSE button for the side whose CUE LED is lit to begin random playback. Once that trac played, playback continues on the other disc. A new track is selected on the disc which has finished playing preparations begin to play that track.

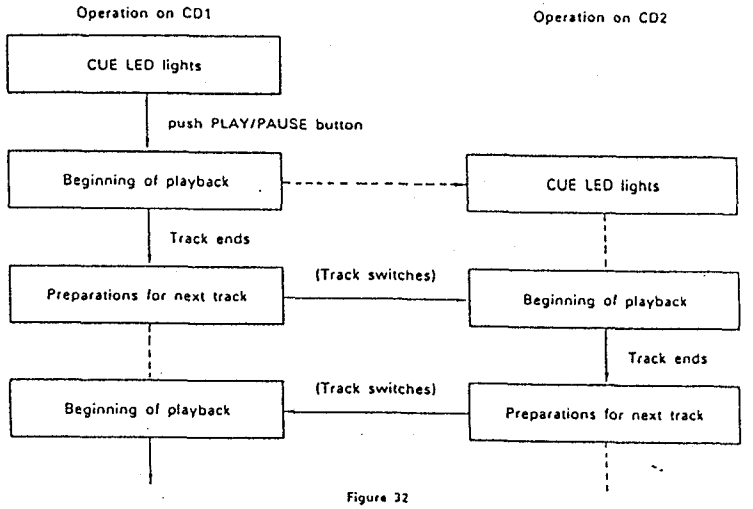


Figure 32

- In order to eliminate silent sections while the tracks are switching during random playback, playback starts position at which the sound starts on the track specified for the second disc as soon as the end of the sound c track specified for the first disc is reached. The point at which the sound ends on the track is found d preparations for random playback (End Detect). The point at which the sound starts on the track is also found d preparations for random playback (Automatic Level Search).

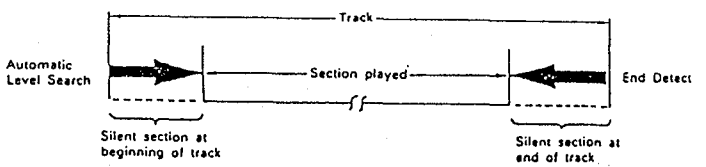
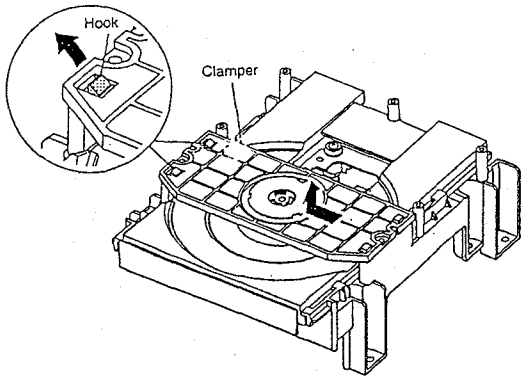


Figure 33

- This is the same as the operation performed during memory playback.
- If the SINGLE indicator is lit, playback stops and the CUE LED lights once all the tracks on both discs hav played. If the CONTINUE indicator is lit, the random playback function starts over.
- Press the PLAY/PAUSE or CUE button to interrupt random playback.
- To cancel the random play mode, press the RANDOM button again.

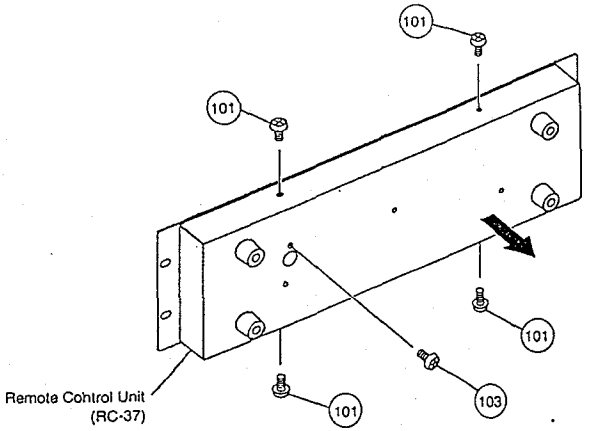
● CLAMPER

Pull clamper and undo 4 hooks.



● CHASSIS (REMOTE CONTROL UNIT)

1. Remove 5 screws (1 (103) and 4 (101)).



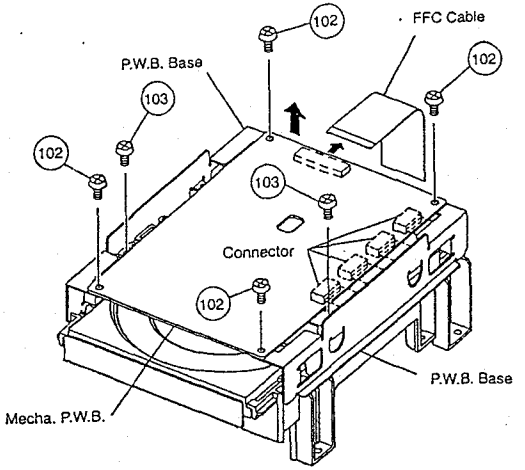
● MECHA. P.W.B. and P.W.B. BASE

1. Remove 4 screws (102) .
2. Disconnect FFC cable and Connector.
3. Remove 2 screws (103) , then P.W.B. Base is detachable.

Note : ● Do not pull out aslant to prevent FFC cable damage.

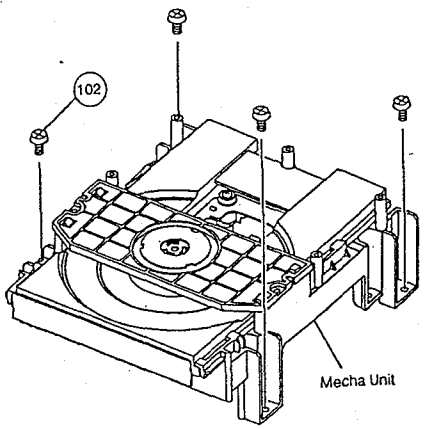
● Do not fail to pull AC cord from wall outlet before disconnect the FFC cable .

If AC cord is remained plugged into wall outlet, power is kept supplied in the unit, which may cause danger.



● MECHANISM UNIT

Remove 4 screws (102) .

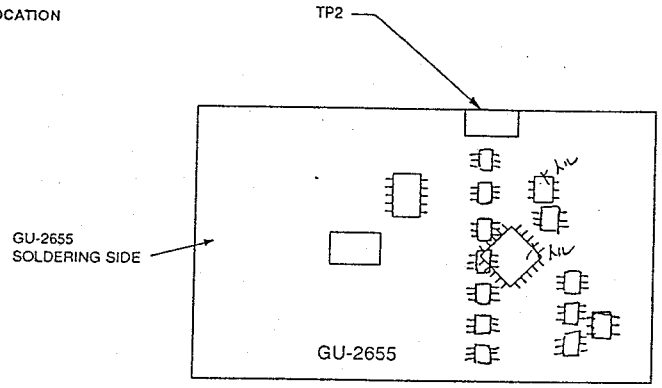


SERVO ADJUSTMENT

NECESSARY EQUIPMENTS FOR ADJUSTMENT

1. Dual trace oscilloscope
2. Reference disc CA1094
3. Oscillator (10Hz – 10kHz, 0 – 3 Vp-p)
4. Frequency Counter
5. Filter for measurement

LOCATION



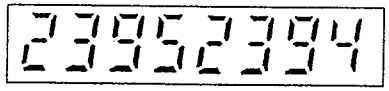
Adjustment Procedure

Be sure to perform servo confirmations by this order.

1 Actuating the Service Program.
2 Confirmation of Tracking Offset.
3 Confirmation of HF Waveform.

1. Actuating the Servo Program

① Turn the power off.
② While simultaneously pushing the center buttons ([1], [2]) of remote control (RC-37), turn the power on.
③ As the tray opens, set the disc.
④ Displayed indication on the remote control (RC-37) is version number of microcomputer program 4 figures on the left are program version of remote control, and 4 figures on the right are program version of main body mechanism.

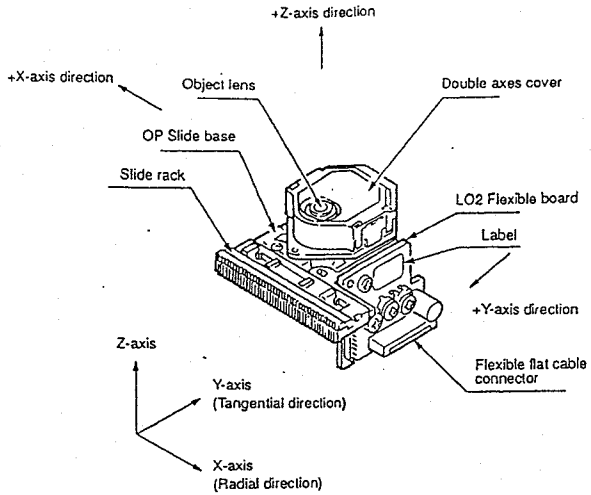
Example 

Program Version of Remote Control (RC-37) | Program Version of Main Body Mechanism

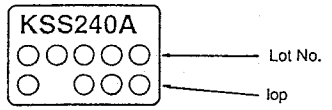
⑤ Push the TRACK [▶▶] button of the mechanism intended to confirm for one time. After confirm that 01 is displayed, push the PLAY button. Then, the Tray will close.
⑥ Push the TRACK [▶▶] button (02 is indicated), then push the PLAY button.

NOTE FOR HANDLING OF LASER PICK-UP

DESCRIPTION OF THE COMPONENTS

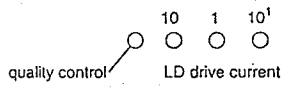


Label



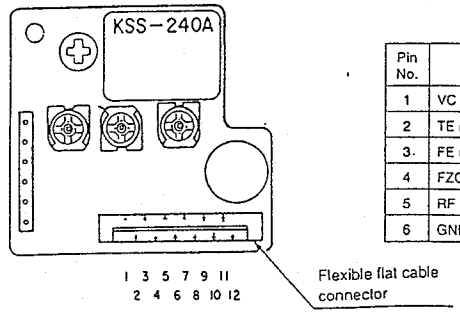
year
(last figure)
day month | quality control No.
○○ ○ ○ ○

but Oct. Nov. and Dec. are expressed by alphabetical letters of X, Y and Z.



The expressed unit is by mA, with omission of the decimal point as for example, 56.5mA will be expressed as 565, but the head of English letter means the control in the manufacturing plant.

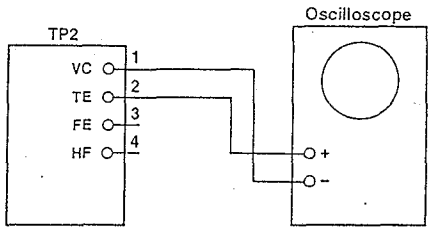
PIN CONNECTOR



Pin No.	Description	Input/ Output	Pin No.	Description	Input/ Output
1	VC (+2.5V)	OUT	7	Vcc (+5V)	IN
2	TE (TRK ER signal)	OUT	8	LDC (LD Control)	IN
3	FE (FCS ER signal)	OUT	9	FCS+ (Double axes)	IN
4	FZC (FZC signal)	OUT	10	TRK+ (Double axes)	IN
5	RF (RF signal)	OUT	11	TRK– (Double axes)	IN
6	GND	IN	12	FCS– (Double axes)	IN

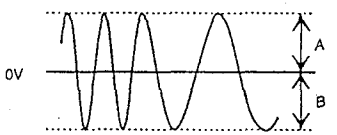
2. Confirmation of Tracking Offset

① Connections



② Push the TRACK [▶▶] button (03 is indicated), then push the PLAY button.

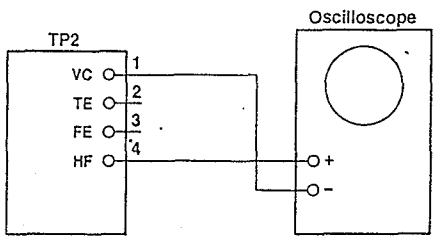
③ Observe TE on the scope.



Measure the voltage of A,B and in case $\frac{|A-B|}{A+B}$ exceeds 15%, please replace pick-up as it is defected.

3. Confirmation of HF Waveform

① Connections



② Observe HF waveform on the scope.

③ The standard amplitude of HF waveform is 1.1V. If it is less than 0.8V, please replace pick-up as it is defected.

4. Adjustment of Super Linear Converter

Adjustment of Super Linear Converter is only performed at a time the DA Converter is replaced.

Adjustment Procedure

① Connections

Connect the LINE OUT to a distortion meter through the low-pass filter.

② Playback a disc obtains 1kHz, 0dB sine wave tone.

③ Adjust the RV1, RV2 and obtain minimum THD.

RV1..... L-channel
RV2..... R-channel

THD standard is less than 0.006%

About the Service Program

The service program is a program specially for servo confirmations.

Actuating the Service Program.

① Turn the power off.

② While simultaneously pushing the center buttons ([1], [2]) of remote control (RC-37), turn the power on.

③ Program version of microcomputer indicated on the remote control signifies start actuating of service program.

Contents of Service Program

After actuating the service program, select an aiming process number with the TRACK ([◀◀] [▶▶]) buttons, TIME button, PITCH BEND button, and PITCH button, and push the PLAY button to execute processing, The process number is then displayed on the TRACK indication portion.

TRACK BUTTONS	Process No. (TRACK indication)	Function	Contents Explanation
TRACK BUTTONS [◀◀] [▶▶]	01	OPEN/CLOSE	Performs OPEN/CLOSE each time the PLAY button is pushed.
	02	FOCUS ERROR	Confirm FOCUS Error signal (S curve).
	03	FOCUS SERVO ON	Turns the FOCUS Servo ON.
	04	Confirmation of TRACKING OFFSET	Rotates the disc. Checks divergence of Tracking Offset.
	05	Confirmation of HF	Normally the same as PLAY MODE.
	06	Cleaning of Pick-up Lens	Pick-up. moves when SEARCH ([◀◀] [▶▶])button is pressed. Move the pick-up under the hole of mechanism PWB, and clean the lens.
TIME	0A	CHUCKING Test	Repeats OPEN/CLOSE of tray, servo ON, and TOC read.
PITCH	0B	Heat Run (No Skip Check)	Repeats OPEN/CLOSE of tray, repeats playing the first and the last programs of music on the disc. When an error occurs, displays error code and stops. (See the table below.)
PITCH BEND	0C	Heat Run (With Skip Check)	Repeats OPEN/CLOSE of tray, repeats playing the first and the last program of music on the disc. Stops when skip (Track Jump) occurs.

Table of Error Code

Error Code	Contents
E1	Focus servo error.
E2	CLV servo error.
E4	Subcode error.
E5	OPEN/CLOSE movement error.
E6	Slide error (outer circle direction).
E7	Slide error (inner circle direction).
E8	Track jump.

NOTE FOR PARTS LIST

- Part indicated with the mark * ⊛ * are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "l" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

• Resistors

Ex.: RN (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

Resistance

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 1 8 — Indicates number of zeros after effective number.
- 2 — 2-digit effective number.

* Units: ohm

1 R 2 ⇒ 1.2 ohm
- 1 — 1-digit effective number.
- R — Indicates number of zeros after effective number.
- 2 — 2-digit effective number, decimal point indicated by R.

* Units: ohm

• Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

* Capacity (electrolyte only)

2 2 2 ⇒ 2200μF
- 2 2 — Indicates number of zeros after effective number.
- 2 — 2-digit effective number.

* Units: μF.

2 R 2 ⇒ 2.2μF
- 2 — 1-digit effective number.
- R — Indicates number of zeros after effective number.
- 2 — 2-digit effective number, decimal point indicated by R.

* Units: μF.

* Capacity (except electrolyte)

2 2 2 ⇒ 2200pF = 0.0022μF
- 2 2 — Indicates number of zeros after effective number.
- 2 — 2-digit effective number.

(More than 2)

* Units: μF.

2 2 1 ⇒ 220pF
- 2 2 — Indicates number of zeros after effective number.
- 1 — 2-digit effective number.

(0 or 1)

* Units: pF.

* When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

GU-2654 MAIN UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC301	268 0076 902	ICP-N38 (Protector)	
IC302	263 0907 005	IC μPC24A05HF	
IC303	263 0800 005	IC NJM78M05FA(S)	
IC304	263 0501 003	IC NJM79M05FA	
IC305	263 0652 907	IC PST539C	
IC306	262 1479 005	IC M5M34051P	
IC307–309	268 0078 900	ICP-N75 (Protector)	Multi-Voltage Model
TR301–304	274 0160 907	Transistor 2SD2144STPU	
TR305	269 0046 906	Transistor DTA114ES	
TR306	269 0020 906	Transistor DTC114ES	
TR307	269 0046 906	Transistor DTA114ES	
TR308	269 0020 906	Transistor DTC114ES	
TR309–314	269 0046 906	Transistor DTA114ES	
D301–303	276 0618 002	Diode RBO15T-40	
D304–307	276 0553 905	Diode 1SR35-200A	
D311–320	276 0432 903	Diode 1SS270A	
LD30*	393 9526 908	LED SLR-305VC(Red)	
LD3 3	393 9526 924	LED SLR-305MC(GRN)	
LD304,305	393 9526 908	LED SLR-305VC(RED)	
LD306,307	393 9526 911	LED SLR-305DC(ORG)	
RESISTORS GROUP(Not Included Carbon Film ±5% 1/4W)			
CAPACITORS GROUP			
C301	254 4255 720	Electrolytic 6800μF/16V	CE04W1C682MC
C302,303	254 4255 717	Electrolytic 4700μF/16V	CE04W1C472MC
C304	254 4254 954	Electrolytic 220μF/16V	CE04W1C221M
C305	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
C306	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C310–313	253 4538 949	Ceramic 100pF/50V	CC45SL1H101J
C314,315	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104Z
C320–323	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104Z
C326,327	254 4254 909	Electrolytic 10μF/16V	CE04W1C100MC
Δ C330	253 8014 702	Ceramic 0.01μF/?V	CK45F2GAC103MC
OTHER PARTS GROUP			
L301,302	235 0049 900	Beads Inductor	
Δ F30.	206 1039 018	Fuse 0.8A	U.S.A. and Canada Model
Δ	206 1015 003	Fuse 0.5A	Multi-Voltage Model
Δ F300	202 0040 909	Fuse Clip	
Δ SW301	212 1032 007	Power Switch(TV3)	
Δ SW302	212 4698 008	Voltage Selector	Multi-Voltage Model Only
SW310–311	212 4775 905	Tact Switch(Long ST)	
CB301–303	205 0581 001	2P VH Conn.Base	
CB304	205 0653 065	6P VH Conn.Base	Multi-Voltage Model Only
CB305	205 0190 052	5P NH Conn.Base	
CB306	205 0375 000	10P Conn.Base(KR-PH)	
CB310–311	205 0668 089	25P FFC Conn.Base	
CB309	205 0717 011	8P Mini DIN Conn. Base	
CB310,311	204 8373 001	2P Pin Jack	
CB330	205 0581 001	2P VH Conn.Base	

GU-2655 MECHA P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC1	262 1879 003	IC CXD2515Q	
IC2	262 1473 001	IC μPD78233GJ-5BG	
IC3	262 1878 004	IC μPD6383GF	
IC4	262 1721 902	IC TC74HC573AF	
IC5	205 0488 010	28P IC Socket	
	GEN 2632	Mecha. ROM Sub Ass'y	
IC6–7	262 1721 902	IC TC74HC573AF	
IC8–15	262 1870 905	IC HM514256AJP-10	
IC16	262 1673 902	IC TC74HC139AF	
IC17–18	262 1884 904	IC TC74HC595AF	
IC19–22	262 1890 901	IC TC74AC161AF	
IC23	262 1883 905	IC TC9264F	
IC24	262 1205 907	IC TC74HCU04AF	
IC25	262 1673 908	IC HD74HC04FP	
IC26	262 1881 907	IC HD74AC74FP	
IC27	262 1889 909	IC HD74AC00FP	
IC28	263 0909 906	IC BA6392FP	
IC29	263 0910 018	IC BA7042(20MHz)	
IC30	262 1765 900	IC SM5841BS	
IC31–32	262 1409 004	IC PCM61P-L	
IC33–36	263 0615 902	IC BA15128F	
IC37	262 1639 900	IC HD74HC00FP	
RESISTORS GROUP (Not Included Carbon Film ±5% 1/4W)			
R1	247 0011 944	Chip 47kohm	RM73B-473J
R2	247 0014 967	Chip 1Mohm	RM73B-105J
R3	247 0013 984	Chip 470kohm	RM73B-474J
R4	247 0012 998	Chip 200kohm	RM73B-204J
R5	247 0009 998	Chip 11kohm	RM73B-113J
R6	247 0009 927	Chip 5.6kohm	RM73B-562J
R7	247 0009 998	Chip 11kohm	RM73B-113J
R8	247 0010 945	Chip 18kohm	RM73B-183J
R9	247 0010 958	Chip 20kohm	RM73B-203J
R10	247 0010 990	Chip 30kohm	RM73B-303J
R11	247 0011 944	Chip 47kohm	RM73B-473J
R12	247 0014 967	Chip 1Mohm	RM73B-105J
R13	247 0013 984	Chip 470kohm	RM73B-474J
R15	247 0012 998	Chip 200kohm	RM73B-204J
R16	247 0009 927	Chip 5.6kohm	RM73B-562J
R17	247 0009 998	Chip 11kohm	RM73B-113J
R18	247 0010 945	Chip 18kohm	RM73B-183J
R19	247 0010 958	Chip 20kohm	RM73B-203J
R20	247 0010 990	Chip 30kohm	RM73B-303J
R22	247 0011 944	Chip 47kohm	RM73B-473J
R23–24	247 0013 984	Chip 470kohm	RM73B-474J
R25–26	247 0010 961	Chip 22kohm	RM73B-223J
R27	247 0013 984	Chip 470kohm	RM73B-474J
R28–29	247 0010 961	Chip 22kohm	RM73B-223J
R30	247 0013 984	Chip 470kohm	RM73B-474J
R31	247 0007 974	Chip 1.3kohm	RM73B-132J
R32	247 0008 960	Chip 3.3kohm	RM73B-332J
R33	247 0009 998	Chip 11kohm	RM73B-113J
R34	247 0014 967	Chip 1Mohm	RM73B-105J
R35	247 0009 998	Chip 11kohm	RM73B-113J
R36	247 0009 998	Chip 11kohm	RM73B-113J
R37	247 0011 902	Chip 33kohm	RM73B-333J
R38–39	247 0011 915	Chip 36kohm	RM73B-363J
R40	247 0012 943	Chip 120kohm	RM73B-124J
R41	247 0007 978	Chip 680ohm 4.7kohm	RM73B-681J
R45	247 0012 927	Chip 100kohm	RM73B-104J
R46	247 0007 945	Chip 1kohm	RM73B-102J
R47	247 0012 998	Chip 200kohm	RM73B-204J
R48	247 0009 985	Chip 10kohm	RM73B-103J
R42	247 0007 973	chip 680ohm	RM73B-681J

656 REMOTE UNIT

. No.	Part No.	Part Name	Remarks
MICONDUCTORS GROUP			
)1	262 1473 001	IC μPD78233GJ-5BG	
)2	205 0488 010	28P IC Socket	
	GEN 2633	Remote ROM Sub Ass'y	
)3	262 1721 902	IC TC74HC573AF	
)4	262 1647 905	IC MN1382-S	
)5	262 1806 005	IC NM24C08N	
)6	262 1597 903	IC M5M34051FP	
)7,108	263 0533 000	IC LC7582	
1	276 0438 949	Diode MA151WK	
2	276 0438 907	Diode MA151WA	
3	276 0438 949	Diode MA151WK	
4	276 0438 907	Diode MA151WA	
5-141	276 0438 910	Diode MA151A	
01-10	269 0082 902	Transistor DTC1143EK	
09-11	272 0081 909	Tranisstor 2SB766S	
01-102	393 9527 004	LED SLB-55MG	
)4	393 9526 924	LED SLR-305MC(GRN)	
05 to 3	393 6009 004	LCD Back Light	
05-107	393 9526 911	LED SLR-305DC(ORG)	
)8	393 9526 924	LED SLR-305MC(GRN)	
)9	393 9526 911	LED SLR-305DC(ORG)	
10	393 9526 908	LED SLR-305VC(RED)	
11	393 9526 924	LED SLR-305MC(GRN)	
12,113	393 9526 911	LED SLR-305DC(ORG)	
14	393 9526 908	LED SLR-305VC(RED)	
15	393 6009 004	LCD Back Light	
16	393 9526 924	LED SLR-305MC(GRN)	
17-119	393 9526 911	LED SLR-305DC(ORG)	
20	393 9526 924	LED SLR-305MC(GRN)	
21	393 9526 911	LED SLR-305DC(ORG)	
22	393 9526 908	LED SLR-305VC(RED)	
23	393 9526 924	LED SLR-305MC(GRN)	
24,125	393 9526 911	LED SLR-305DC(ORG)	
11-102	393 6005 008	LCD	

ISTO GROUP			
102	247 0005 905	Chip 100ohm	RM73B--101J
105	247 0011 944	Chip 47kohm	RM73B--473J
111	247 0005 947	Chip 150ohm	RM73B--151J
113	247 0005 947	Chip 1kohm	RM73B--102J
	247 0005 905	Chip 100ohm	RM73B--101J
	247 0011 957	Chip 51kohm	RM73B--513J
	247 0013 942	Chip 330kohm	RM73B--334J
	247 0006 920	Chip 330ohm	RM73B--331J
	247 0009 985	Chip 10kohm	RM73B--103J
	247 0006 920	Chip 330ohm	RM73B--331J
	247 0009 985	Chip 10kohm	RM73B--103J
128	247 0011 944	Chip 47kohm	RM73B--473J
132	247 0004 906	Chip 39ohm	RM73B--390J
	247 0011 957	Chip 51kohm	RM73B--513J
	247 0013 942	Chip 330kohm	RM73B--334J
	247 0006 920	Chip 330ohm	RM73B--331J
	247 0009 985	Chip 10kohm	RM73B--103J
	247 0006 920	Chip 330ohm	RM73B--331J
140	247 0009 985	Chip 10kohm	RM73B--103J
149	247 0004 906	Chip 39ohm	RM73B--390J
155	247 0005 989	Chip 220ohm	RM73B--221J
	247 0006 962	Chip 470ohm	RM73B--471J
159	247 0005 989	Chip 220ohm	RM73B--221J
	247 0006 962	Chip 470ohm	RM73B--471J

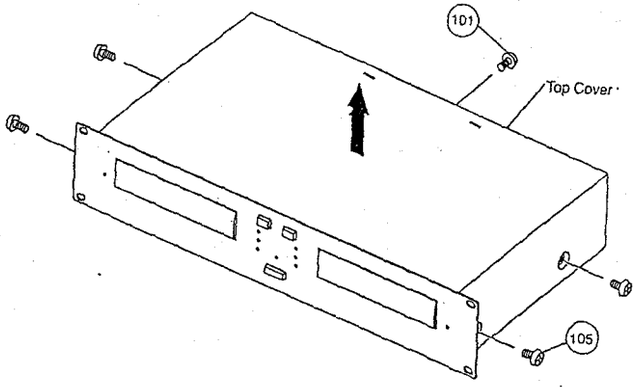
Ref. No.	Part No.	Part Name	Remarks
R161-166	247 0005 989	Chip 220ohm	RM73B--221J
R167	247 0006 962	Chip 470ohm	RM73B--471J
R168-170	247 0005 989	Chip 220ohm	RM73B--221J
VR101-102	211 0763 015	Slide Volume	
CAPACITORS GROUP			
C101-106	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C107	254 4302 916	Electrolytic 10μF/10V	CE04W1A100M(SRE)
C108	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C109	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C110-112	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C113	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C114	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C115	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C116	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C117	257 0006 969	Ceramic Chip 680pF/50V	CK73SL1H681J
C118,119	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C120	254 4302 958	Electrolytic 47μF/10V	CE04W1A470M(SRE)
C121	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
C122	257 0006 969	Ceramic Chip 680pF/50V	CK73SL1H681J
C123-126	257 0014 935	Ceramic Chip 0.1μF/25V	CK73B1E104Z
OTHER GROUP			
L101-106	235 0049 900	Bead Inductor	
X101	399 0038 901	Ceramic Vibrator	CSt12.0MTW
SW101-136	212 4775 905	Tact Switch (Long ST)	
SW137	212 0352 005	Jog-Shuttle	
SW138	212 4775 905	Tact Switch (Long ST)	
SW144-161	212 4775 905	Tact Switch (Long ST)	
SW162	212 0352 005	Jog-Shuttle	
SW163	212 4775 905	Tact Switch (Long ST)	
CN101A	205 0850 033	18P Conn. Base (BTMK-P)	
CN101B	205 0849 031	18P Conn. Base (BTMK-S)	
CN102A	205 0850 020	10P Conn. Base (BTMK-P)	
CN102B	205 0850 028	10P Conn. Base (BTMK-S)	
CN103A	205 0850 033	18P Conn. Base (BTMK-P)	
CN103B	205 0849 031	18P Conn. Base (BTMK-S)	
CN104A	205 0850 017	8P Conn. Base (BTMK-P)	
CN104B	205 0849 015	8P Conn. Base (BTMK-S)	
CN105A	205 0849 044	20P Conn. Base (BTMK-S)	
CN105B	205 0850 046	20P Conn. Base (BTMK-P)	
CN106A	205 0849 015	8P Conn. Base (BTMK-S)	
CN106B	205 0850 017	8P Conn. Base (BTMK-P)	
CN107A	205 0849 031	18P Conn. Base (BTMK-S)	
CN107B	205 0850 033	18P Conn. Base (BTMK-P)	
CN108A	205 0849 002	6P Conn. Base (BTMK-S)	
CN108B	205 0850 004	6P Conn. Base (BTMK-P)	
CN109	205 0707 011	8P Mini DIN Conn. Base	

Ref. No.	Part No.	Part Name	Remarks
R49	247 0012 998	Chip 200kohm	RM73B--204J
R50	247 0011 944	Chip 47kohm	RM73B--473J
R51	247 0012 998	Chip 200kohm	RM73B--204J
R52	247 0009 985	Chip 10kohm	RM73B--103J
R53	247 0012 998	Chip 200kohm	RM73B--204J
R54	247 0009 901	Chip 4.7kohm	RM73B--472J
R55	247 0008 915	Chip 2kohm	RM73B--202J
R56	247 0005 905	Chip 100ohm	RM73B--101J
R57	247 0013 939	Chip 300kohm	RM73B--304J
R58	247 0014 967	Chip 1Mohm	RM73B--105J
R59	247 0005 905	Chip 100ohm	RM73B--101J
R60-63	247 0007 945	Chip 1kohm	RM73B--102J
R64	247 0006 920	Chip 330ohm	RM73B--331J
R68	247 0012 927	Chip 100kohm	RM73B--104J
R69	247 0005 905	Chip 100ohm	RM73B--101J
R71-74	247 0011 944	Chip 47kohm	RM73B--473J
5	247 0007 945	Chip 1kohm	RM73B--102J
7-78	247 0005 905	Chip 100ohm	RM73B--101J
R79-81	247 0009 985	Chip 10kohm	RM73B--103J
R84-86	247 0005 905	Chip 100ohm	RM73B--101J
R87	247 0009 985	Chip 10kohm	RM73B--103J
R88-93	247 0007 945	Chip 1kohm	RM73B--102J
R100-101	247 0012 927	Chip 100kohm	RM73B--104J
R103-104	247 0007 945	Chip 1kohm	RM73B--102J
R105	247 0009 985	Chip 10kohm	RM73B--103J
R106	247 0005 905	Chip 100ohm	RM73B--101J
R107	247 0009 901	Chip 4.7kohm	RM73B--472J
R108	244 2051 945	Metallic 1ohm 1W	RS14B3A010JNBS(S)
R109-110	247 0011 944	Chip 47kohm	RM73B--473J
R200-202	247 0008 960	Chip 3.3kohm	RM73B--332J
RV1-2	211 6079 949	Semi-Fixed Resistor 100kohm	V06PB104
CAPACITORS GROUP			
C1	254 4327 904	Electrolytic 1000μF/6.3V	CE04W0J102M(KMG)
C2	254 4300 963	Electrolytic 100μF/6.3V	CE04W0J101M(SRE)
C4	254 4300 963	Electrolytic 100μF/6.3V	CE04W0J101M(SRE)
C5	254 4299 904	Electrolytic 47μF/16V	CE04W1C470M(SRE)
8	254 4300 963	Electrolytic 100μF/6.3V	CE04W0J101M(SRE)
C9	254 4305 955	Electrolytic 0.68μF/50V	CE04W1HR68M(SRE)
C10	254 4304 927	Electrolytic 4.7μF/35V	CE04W1V4R7M(SRE)
C11,12	254 4302 916	Electrolytic 10μF/10V	CE04W1A100M(SRE)
C13	257 0007 926	Ceramic Chip 1200pF/50V	CC73SL1H122J
C14	257 0005 931	Ceramic Chip 200pF/50V	CC73SL1H201J
C15	257 0002 992	Ceramic Chip 20pF/50V	CC73SL1H200J
C16	257 0007 926	Ceramic Chip 1200pF/50V	CC73SL1H122J
C17	257 0005 931	Ceramic Chip 200pF/50V	CC73SL1H201J
C18	257 0002 992	Ceramic Chip 20pF/50V	CC73SL1H200J
C19	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C20-21	257 0005 944	Ceramic Chip 220pF/50V	CC73SL1H221J
C22	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C23	257 0006 927	Ceramic Chip 470pF/50V	CK73SL1H471J
C24	257 1013 964	Ceramic Chip 0.056μF/50V	CK73B1E563K(3216)
C25	257 4303 902	Electrolytic 3.3μF/25V	CE04W1E3R3M(SRE)
C26	254 4302 916	Electrolytic 10μF/10V	CE04W1A100M(SRE)
C27	257 1013 951	Ceramic Chip 0.047μF/50V	CK73B1E473K(3216)
C28	257 0002 992	Ceramic Chip 20pF/50V	CC73SL1H200J
C29	257 0002 921	Ceramic Chip 10pF/50V	CC73SL1H100D
C30	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C31-34	257 0004 961	Ceramic Chip 100pF/50V	CC73SL1H101J
C35	257 0014 919	Ceramic Chip 0.047μF/50V	CK73B1E473Z
C36	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C37	257 0014 919	Ceramic Chip 0.047μF/50V	CK73B1E473Z
C38	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C39	254 4302 916	Electrolytic 10μF/10V	CE04W1A100M(SRE)

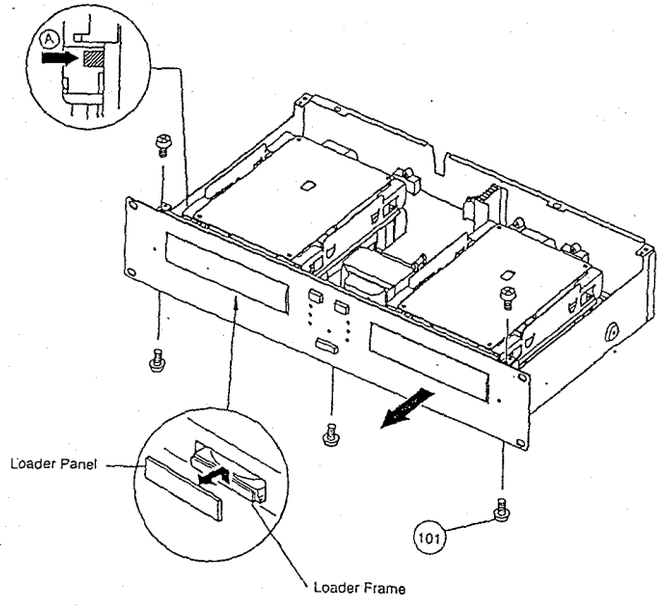
Ref. No.	Part No.	Part Name	Remarks
C40	257 0002 918	Ceramic Chip 9pF/50V	CC73SL1H9R0D
C41	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C42	257 0002 963	Ceramic Chip 15pF/50V	CC73SL1H150D
C43-44	257 0002 921	Ceramic Chip 10pF/50V	CC73SL1H100D
C45	257 0005 944	Ceramic Chip 220pF/50V	CK73SL1H221J
C46	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C50-51	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C52	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C53	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C54	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C55-64	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C66-71	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C72 80	257 0006 969	Ceramic Chip 680pF/50V	CK73SL1H681J
C74-88	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C90-94	257 0014 935	Ceramic Chip 0.1μF/25V	CK73F1E104Z
C95	257 0004 961	Ceramic Chip 100pF/50V	CC73SL1H101J
C100,101	257 0010 900	Ceramic Chip 0.01μF/50V	CK73B1H103K
C96	254 4302 916	Electrolytic 10μF/10V	CE04W1A100M(SRE)
OTHERS PARTS GROUP			
L1	235 0088 903	Chip Inductor (3.3μ)	
L2-7	235 0106 903	Chip EMIFIL	
X1	399 0224 003	Crystal	33.8688MHz
X2	399 0141 005	Ceramic Vibrator	CSA24.57MX040
X3	399 0038 901	Ceramic Vibrator	CSt12.0MTW
CN1	205 0702 097	25P FFC Conn.Base	
CN2	205 0681 008	12P FFC Side Conn.Base	
CN3	205 0395 051	5P Conn.Base(Red)L	
CN4	205 0355 059	5P KR Conn.Base L	
CN5	205 0848 906	6P FFC Conn.Base P0.8	
TP2	205 0355 046	4P KR Conn.Base L	

DISASSEMBLY

- TOP COVER
  1. Remove 4 screws (105) on both sides, and 1 screw (101) on rear side.
  2. Pull up TOP COVER.



- FRONT PANEL
  1. LOADER FRAME comes out when SLIDE RACK (A) of *mechanism* unit is pushed.
  2. Pull up LOADER PANEL while pulling it towards front.
  3. Remove 5 screws (101).
  4. Detach FRONT PANEL.



ENGLISH

12 SPECIFICATIONS

GENERAL

Type:	Twin mechanism compact disc player with wired controller		
Disc type:	Standard compact discs (12 cm and 8 cm discs)		
Dimensions:	Player unit:	482 (W) × 88 (H) × 252 (D) mm (without feet)	
		19" (W) × 3-15/32 (H) × 9-55/64 (D)	
	Control unit:	482 (W) × 132 (H) × 40 (D) mm (without feet)	
		19" (W) × 5-13/64 (H) × 1-37/64 (D)	
Installation:	19-inch rack mountable		
	Player unit:	2U	
	Control unit:	3U	
Weight:	Player unit:	6 kg (13.23 lbs.)	
	Control unit:	3 kg (6.614 lbs.)	
Power supply:	U.S. and Canadian models:	120 V AC	±10%, 60 Hz
	European models:	230 V AC	±10%, 50 Hz
	Multi-voltage models:	120/220/240 V AC	±10%, 50/60 Hz
Power consumption:	25 ~~24~~ W		
Environmental conditions:	Operational temperature:	5 to 35°C	(41 to 95°F)
	Operational humidity:	25 to 85%	(no condensation)
	Storage temperature:	–20 to 60°C	(4 to 140°F)
Accessories:	Connecting cord (2 pairs for left and right channels)		
	Control cord (5m, 15 feet)		

AUDIO SECTION

Quantization:	18-bit linear per channel
Sampling frequency:	44.1 kHz at normal pitch
Oversampling rate:	8 times
Frequency response:	10 to 20,000 Hz
Total harmonic distortion:	0.003%
Signal to noise ratio:	103 dB
Dynamic range:	98 dB
Channel separation:	100 dB
Output level:	2.0 V
Load impedance:	10 kohm or more

FUNCTIONS

Instant start:	Within 10 msec.	
Variable pitch:	4% range:	±4% or more
	8% range:	±8% or more
	50% range:	±50% or more
Pitch bend:	4% and 8% ranges:	±10% or more
	50% range:	±50% or more
Sampling length:	5.94 sec. at normal pitch	
Search accuracy:	Fine mode;	1/75 sec. (1 subcode frame)
	Coarse mode;	10/75 sec. (10 subcode frames)
Max. scan speed:	Over 20 times normal speed	
Max. memory steps:	~~100~~ 99 steps	

* Specifications and design are subject to change without notice for purpose of improvement.

RC-37 REMOTE CONTROL UNIT

Ref. No.	Part No.	Part Name	Remarks	Q'ty
⊛ 1	GU-2656	REMOTE PWB UNIT		1
1-1	—	LEFT PWB UNIT		
1-2	—	RIGHT PWB UNIT		
1-3	—	CPU PWB UNIT		
1-4	—	JUNCTION PWB UNIT1		1
1-5	—	JUNCTION PWB UNIT2		1
2	393 6009 004	LED BACK LIGHT		2
3	393 6005 008	LCD		2
4	211 0763 015	SLIDE VOLUME		2
5	212 0352 005	JOG-SHUTTLE		2
6	212 4775 905	TACT SWITCH(LONG ST)		56
7	393 9526 908	LED(RED)	SLR-305VC	3
8	393 9526 911	LED(RED)	SLR-305DC	12
9	393 9526 924	LED(GRN)	SLR-305MC	6
10	393 9527 004	LED(GRN)	SLR-55MG	2
11	443 1325 004	LED SPACER		2
12	205 0717 008	8P MINI DIN CONN.BASE		1
13	—	—		
⊛ 14	144 2345	OPERATION PANEL ASS'Y		1
⊛ 15	146 1475	LCD WINDOW		2
⊛	146 1371 005	LED WINDOW		21
17	—	—		
18	119 0076 008	RUBBER BUTTON(1)		2
19	119 0077 007	RUBBER BUTTON(2)		1
20	113 1523 015	SLIDE KNOB		2
⊛ 21	411 1271 009	CHASSIS		1
⊛ 22	104 0270 006	FOOT		4
23	449 0050 019	CARD SPACER		3
24	412 2404 014	PWB HOLDER		2
⊛ 25	412 3555 108	EARTH PLATE		1

SCREWS

101	273 7015 005	TAPPING SCREW 3×6(S)		4
102	273 7002 021	TAPPING SCREW 3×8(S)		12
103	273 7508 017	TAPPING SCREW 3×10(P)	Black	1

26	461 0840 009	RUBBER PAD	2
27	461 0841 008	RUBBER SPACER (A)	2
28	461 0842 005	RUBBER SPACER (B)	1

● Part indicated with the mark * ⊛ * are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

●

PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks	Q'ty
⊛ 1	GU-2654	MAIN PWB UNIT		1
1-1		MAIN PWB UNIT		1
1-2		PANEL PWB UNIT		1
1-3		SW. PWB UNIT		1
⊛ 2	GU-2655	MECHA PWB UNIT		2
3	205 0717 011	8P MINI DIN CONN. BASE		1
4	204 8373 001	2P PIN JACK		2
⊛ 5	217 0462 118	HEAT SINK		1
Δ 6	206 1039 018	FUSE 0.8A	U.S.A. and Canada Model	1
Δ	206 1034 032	FUSE 0.16A	Europe Model	1
Δ	206 1015 003	FUSE 0.5A	Multi-Voltage Model	1
7	212 4775 905	TACT SWITCH (LONG ST)		2
8	393 9526 908	LED (RED)	SLR-305VC	3
9	393 9526 911	LED (ORG)	SLR-305DC	2
10	393 9526 924	LED (GRN)	SLR-305MC	2
11	212 1032 007	POWER SWITCH		1
⊛ 12	144 2344 006	FRONT PANEL ASS'Y		1
⊛ 13	146 1371 005	LED WINDOW		7
⊛ 14	411 1422 308	CHASSIS		1
⊛ 15	499 0074 008	LOCKING CARD SPACER		2
16	499 0077 005	CARD SPACER		3
17	461 0706 101	FOOT SHEET		2
18	461 0740 002	SHEET		2
⊛ 19	105 1104 006	BACK PANEL	U.S.A. and Canada Model	1
⊛	105 1104 022	BACK PANEL	Europe Model	1
⊛	105 1104 018	BACK PANEL	Multi-Voltage Model	1
20	337 0030 008	CD MECHA. UNIT (FG-71)		2
⊛ 21	412 3763	PWB BASE		4
22	009 0065 013	25P FFC		2
⊛ 23	412 3555 108	EARTH PLATE		1
⊛ 24	411 1270 107	TRANS BASE		1
Δ 30	206 2100 001	AC CORD W/CONN.	U.S.A. and Canada Model	1
Δ	206 2089 106	AC CORD W/CONN.	Europe Model	1
Δ	206 2089 106	AC CORD W/CONN.	Multi-Voltage Model	1
Δ 31	445 0056 008	CORD BUSH		1
Δ 32	233 5953 008	POWER TRANS	U.S.A. and Canada Model	1
Δ	233 5955 006	POWER TRANS	Europe Model	1
Δ	233 5954 007	POWER TRANS	Multi-Voltage Model	1
33	—	—		
34	119 0069 109	RUBBER BUTTON(B)		1
35	113 1357 269	POWER SW.BUTTON		1
⊛ 36	146 9238 153	LOADER PANEL		2
⊛ 37	102 0425 224	TOP COVER		1
39		FERRAITE CORE		1
41		PWB HOLDER		1
Δ 40	212 4698 008	VOLTAGE SELECTOR	Multi-Voltage Model	1
⊛ 41	411 1143 001	SELECTOR BRACKET	Multi-Voltage Model	1
42		PWB HOLDER (2)	Europe Model	1

SCREWS

101	473 7015 005	TAPPING SCREW 3×6(S)	Black	11
102	473 7002 005	TAPPING SCREW 3×6(S)		48
103	473 7508 017	TAPPING SCREW 3×10 (P)	Black	7
104	473 7004 016	TAPPING SCREW 4×6(S)		4
105	477 0263 018	3P SWELLING SCREW		4

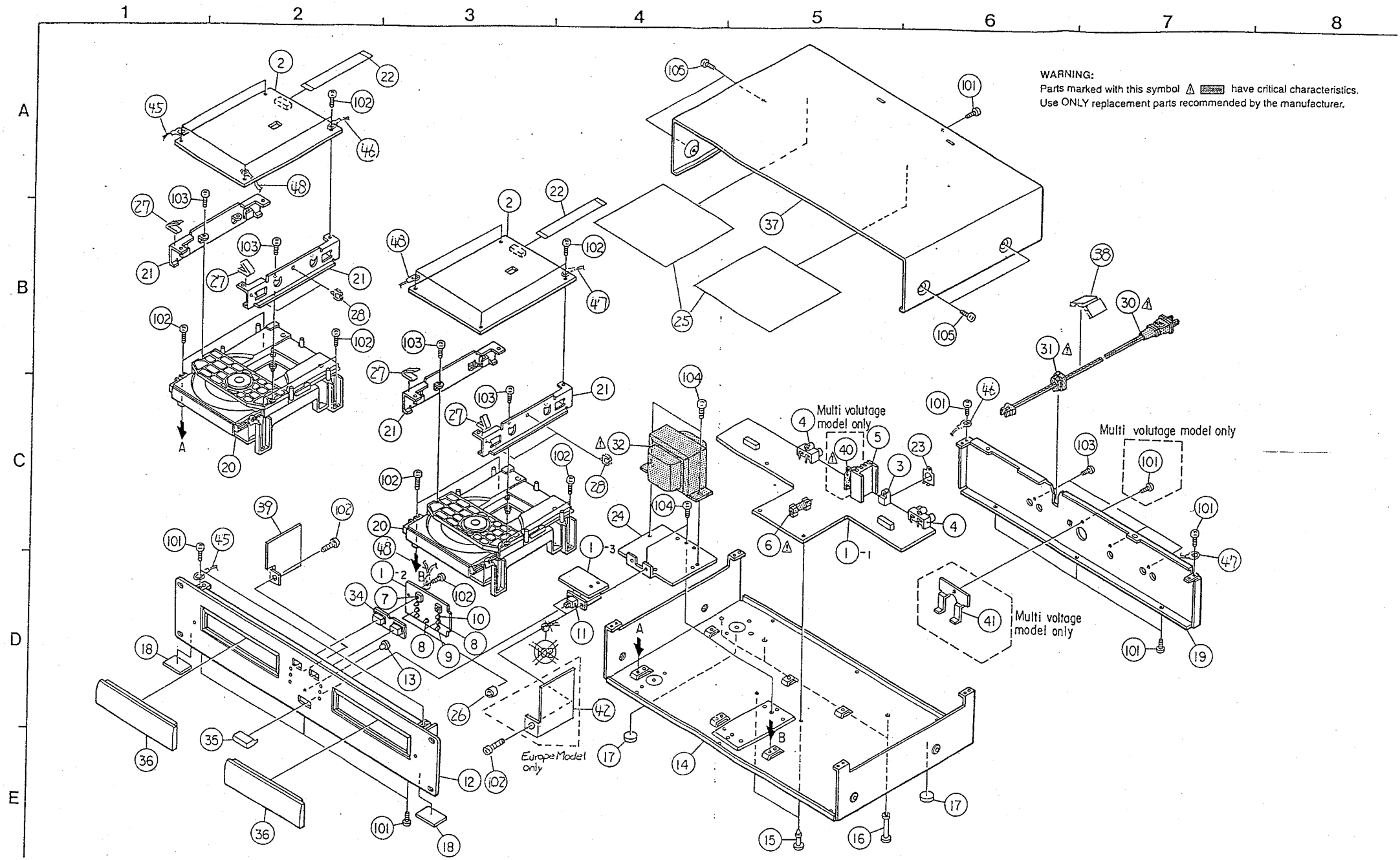
PACKING & ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks	Q'ty
	511 2560 006	INST.MANUAL	U.S.A. Model	1
	511 2578 001	INST.MANUAL	Europe Model	1
	515 0626 009	DAI WARRANTY COM.	U.S.A. Model	1
	515 0436 008	DCI WARRANTY	Canada Model	1
	204 2656 009	8P MD CONN. CORD		1
	203 6305 007	2P PIN CORD		2
	505 0102 092	STYRENE PAPER		1
	505 0038 030	POLY COVER		1
	505 0099 008	POLY COVER		1
	503 1001 206	CUSHION		2
	RC-37	REMOTE CONTROL UNIT		1
	505 1012 021	STYRENE PAPER		1
	503 1110 003	CUSHION(RC)	Remote Control Unit	2
	501 1739 103	CARTON CASE		1
	202 0042 004	AC ADAPTER	Multi-Voltage Model Only	1

25	122 0210 001	SHEET	2
26	461 0843 006	RUBBER SPACER (C)	2
⊛ 27	469 0042 005	GASKET	4
⊛ 28	445 0172 004	MINI CLAMP	4
45		1P CON. ASS'Y (A)	1
46		1P CON. ASS'Y (B)	1
47		1P CON. ASS'Y (C)	1
48		1P CON. ASS'Y (D)	1

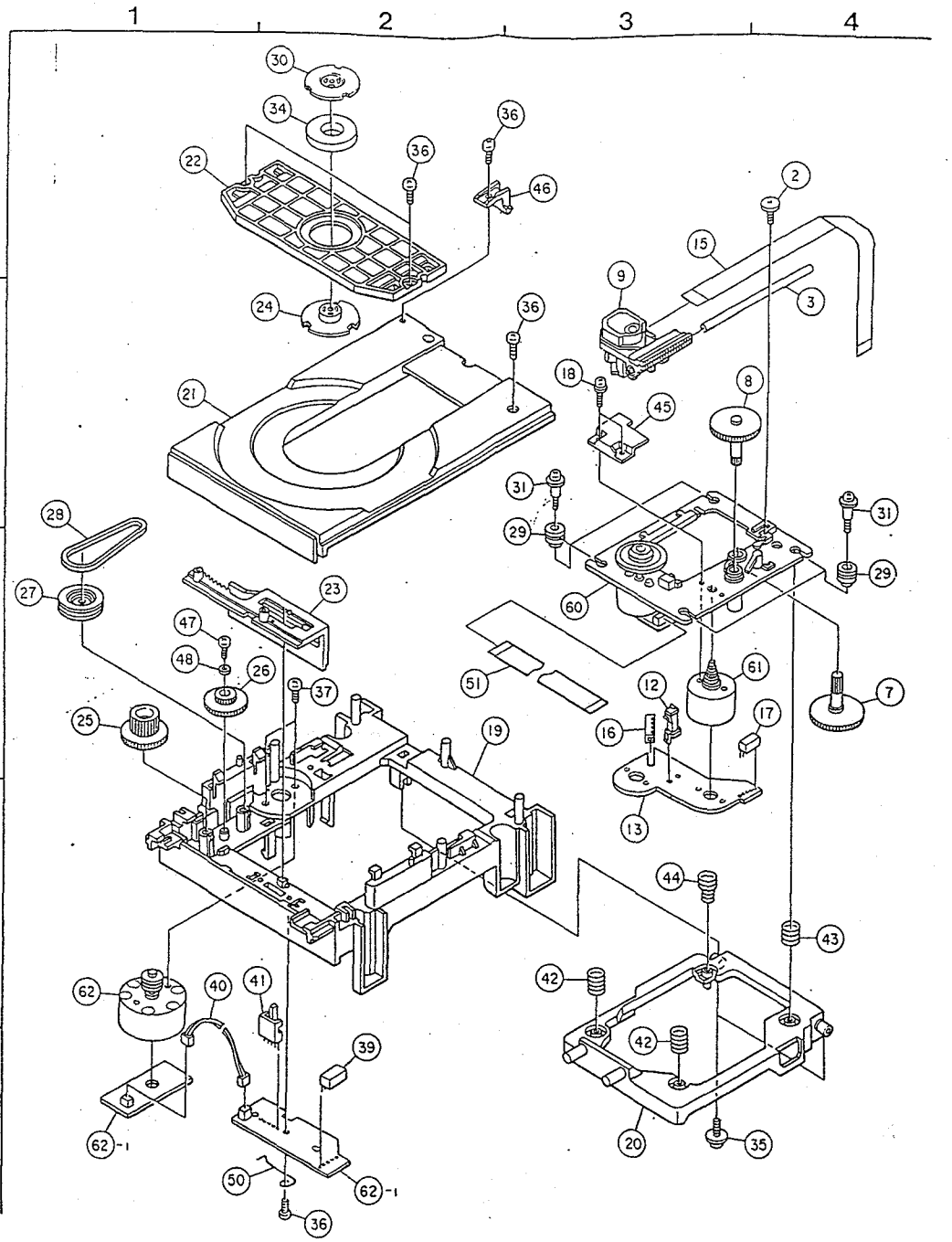
● Part indicated with the mark * ⊛ * are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

EXPLODED VIEW OF CHASSIS AND CABINET



FG-71 MECHANISM UNIT

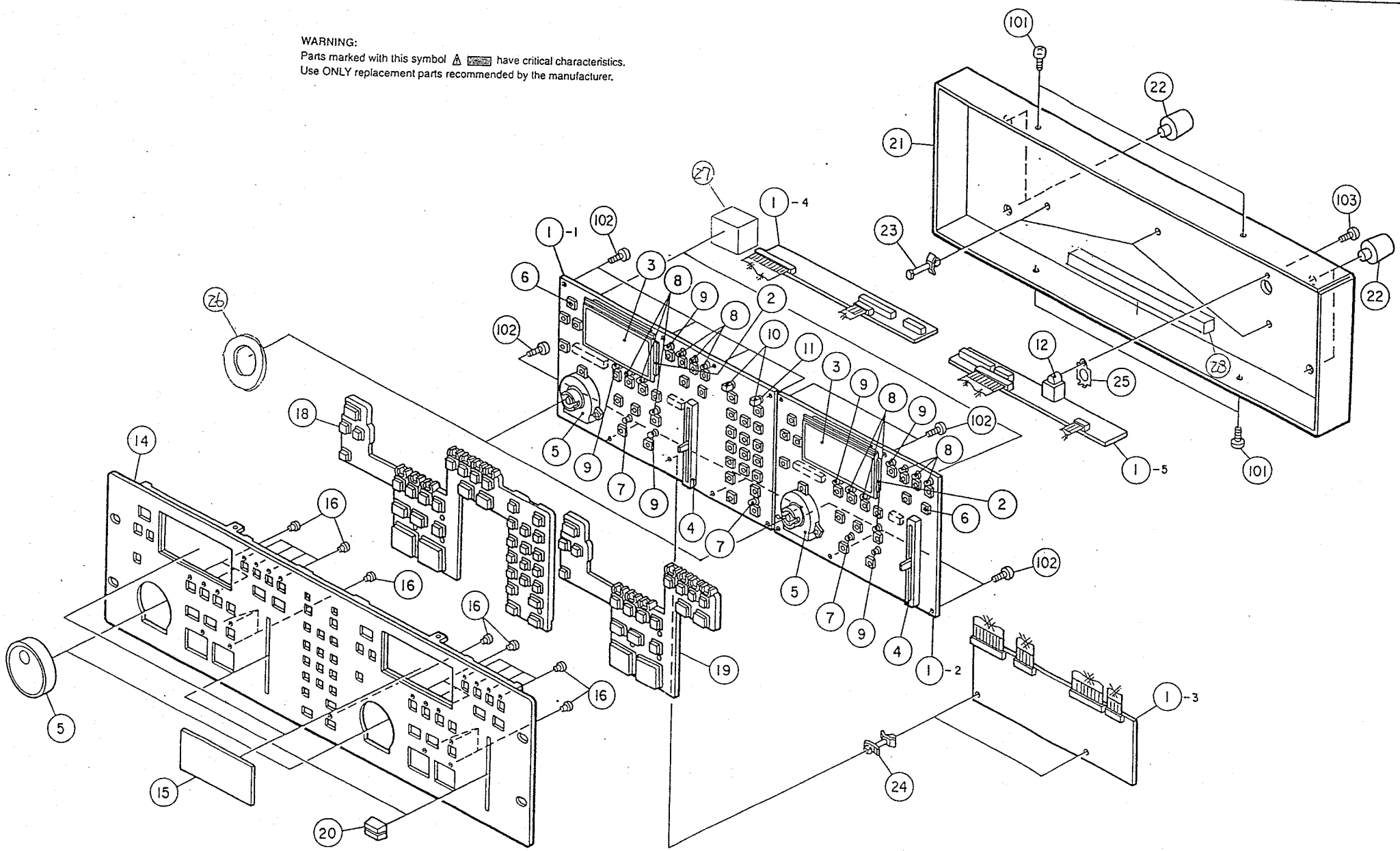
Ref. No.	Part No.	Part Name	Remarks
2	9KA 90H0 06	FS FIXING SCREW	
3	9KA 90H0 05	FEED SHAFT	
7	9KA 80G0 17	DRIVE GEAR (A)	
8	9KA 80G0 18	DRIVE GEAR (B)	
9	499 0191 009	LASER P.U.	KSS-240A
12	9KS 01W1 47	LEAF SWITCH	
13	9KA 85P0 09	MOTOR P.W.B.	
15	009 0051 001	12P FFC CABLE	
16	443 1093 006	FFC BUSH	
17	9KA 82G2 53	S5B-PH CONNECTOR BASE	
18	9KM 20S0 04	2x4 SCREW	
19	9KA 85G0 26	MECHA.PLATE(FG70)	
20	9KA 85G0 20	MECHA.FRAME(FG70)	
21	9KA 85G0 21	CD TRAY(FG70)	
22	9KA 85G0 04	CLAMPER FRAME	
23	9KA 85G0 22	UD PLATE GEAR(FG70)	
24	9KA 85G0 06	CLAMPER (F)	
25	9KA 85G0 07	RELAY GEAR(A)	
26	9KA 85G0 08	RELAY GEAR(B)	
27	9KA 85G0 09	RELAY GEAR(C)	
28	9KA 85G0 10	GEAR BELT(F)	
29	9KA 85G0 30	DAMPER(FG-40)	
30	9KA 85P0 01	CLAMPER PLATE (F)	
31	9KA 85H0 01	SCREW(F)	
34	9KA 82G0 57	MAGNET	
35	9KA 91H0 02	3x8 (W-10)SCREW	
36	9KB 30B0 08	3x8 BAIND SCREW	
37	9KM 26B0 04	2.6x4 BAIND SCREW	
39	9KA 82G3 08	S5B-PH(RED)	
40	9KA 85G0 27	CNW2(FG70)	
41	9KS 01W1 48	OP/CL SWITCH(SSS12)	
42	9KA 85S0 01	SPRING (A)	
43	9KA 85S0 02	SPRING (B)	
44	9KA 85S0 03	SPRING (C)	
45	9KA 85G0 33	GEAR GUIDE	
46	9KA 85G0 36	TRAY STOPPER	
47	9KB 20B0 05	2x5 BAIND (B)	
48	9KS 21W6 04	STW2.1x6x0.4	
50	9KA 85S0 05	HOLD SPRING	
51	009 0097 007	6P FFC CABLE	
60	9KA 85A0 07	SPINDLE MOTOR ASS'y	
61	9KA 85A0 08	FEED MOTOR ASS'y	
62	9KA 85A0 06	LOADING MOTOR ASS'y	
62-1		MOTOR P.W.B.	



EXPLODED VIEW OF RC-37 REMOTE CONTROL UNIT

1 2 3 4 5 6 7 8

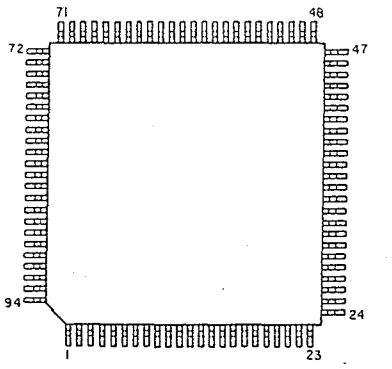
WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.



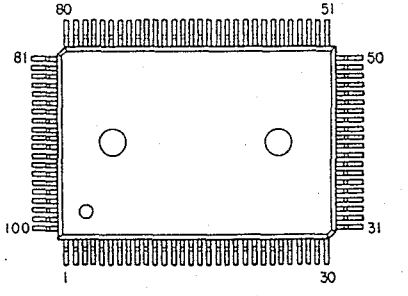
SEMICONDUCTORS

- IC's

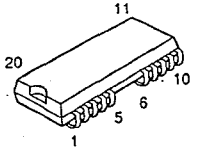
µPD78233GJ-5BG (IC2, 101)



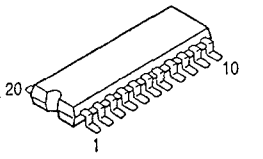
CXD2515Q (IC1)
µPD6383GF (IC3)



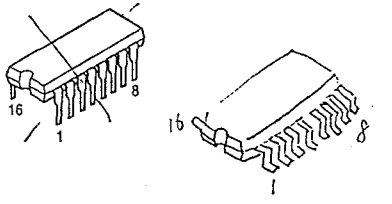
HM514256AJP-10 (IC8~15)



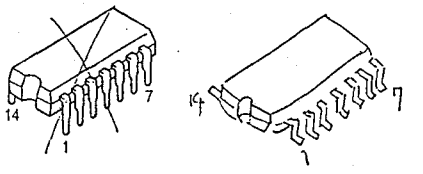
TC74HC573AF (IC4, 6, 7, 103)



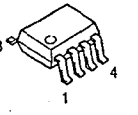
TC9246F (IC23)
M5M34051P (IC106)
TC74HC139AF (IC16)
TC74AC161AF (IC19~22)
TC74HC595AF (IC17, 18)



HD74HC00FP (IC37)
HD74AC00FP (IC27)
HD74HC04FP (IC25)
TC74HCU04AF (IC24)
HD74AC74FP (IC26)

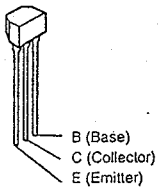


BA15218F (IC33~36)

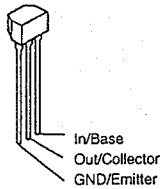


• TRANSISTORS

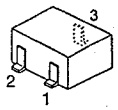
2SD2144STPU
(TR301~304)



DAT143ES (TR309~314)
DTA114ES (TR305, 307)
DTC114ES (TR306, 308)

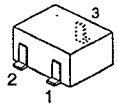


2SB766S
(TR109~112)

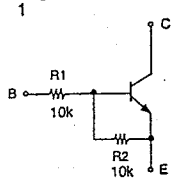


1: Emitter
2: Base
3: Collector

DTC114EK
(TR105~108)

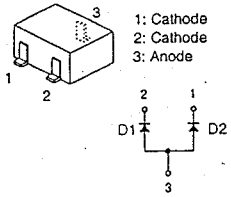


1: GND/Emitter
2: In/Base
3: Out/Collector

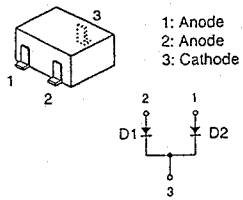


• DIODES

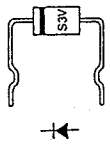
MA151A (D115~141)
MA151WA (D112, 114)



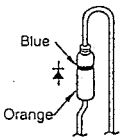
MA151WK
(D111, 113)



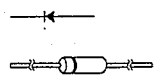
S3V10F (O4P15)
(D321)



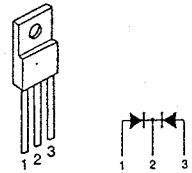
1SR35-200A (D304~307)



1SS270ATE
(D311~320)

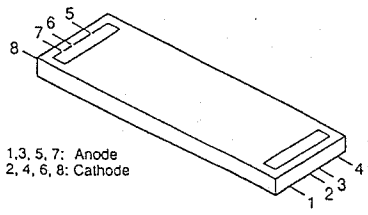


RB015ST-40
(D301~303)



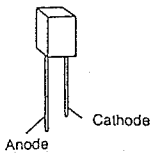
• LED

BACK LIGHT
(LE105, 115)

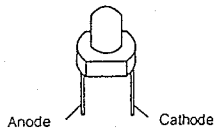


1,3, 5, 7: Anode
2, 4, 6, 8: Cathode

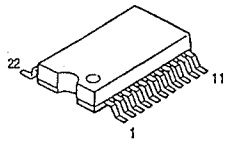
SLB-55MG
(LE101, 102)



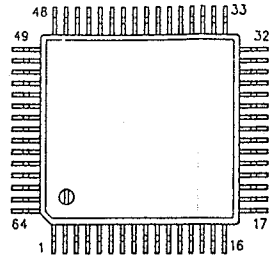
SLR-305VC (RED)
(LE110, 114, 122, 301, 304, 305)
SLR305DC (ORG)
(LE105~107, 109, 112, 113, 117~119, 121, 124, 125, 306, 307)
SLR-305MC (GRN)
(LE104, 108, 111, 116, 120, 122, 302, 303)



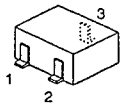
SM5841BS (IC30)



LC7582 (IC107, 108)

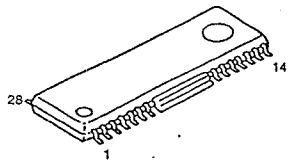


MN1382-S (IC104)

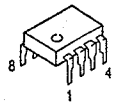


1: GND
2: VDD
3: OUT

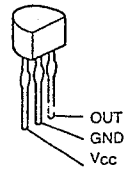
BA6392FP-T1 (IC28)



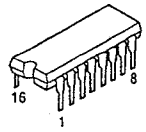
BA7042 (IC29)
NM24C08N (IC105)



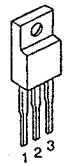
PST529C (IC305)



PCM61P-L (IC31, 32)
M5M34051P (IC306)

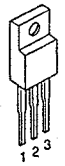


NJM78M05FA (IC303)
μPC24A05HF (IC302)



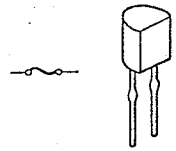
1: IN
2: GND
3: OUT

NJM79M05FA

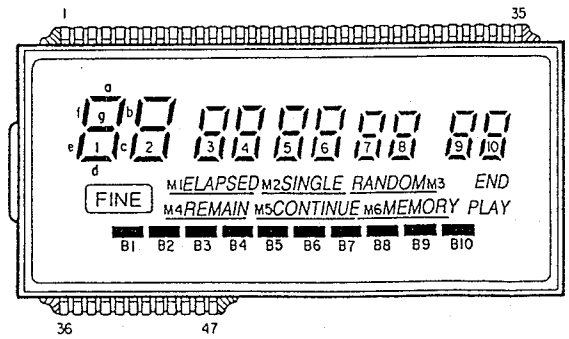


1: GND
2: IN
3: OUT

IC PROTECTOR
ICP-N38T (IC301)



LCD (LC101, 102)



Pin No.		
1	2d	1d
2	1c	1e
3	1g	1f
4	1b	1a
5	2c	2e
6	2g	2f
7	2b	2a
8	4d	3d
9	3c	3e
10	3g	3f
11	3b	3a
12	4c	4e
13	4g	4f
14	4b	4a
15	6d	5d
16	5c	5e
17	5g	5f
18	5b	5a
19	6c	6e
20	6g	6f
21	6b	6a
22	8d	7d
23	7c	7e

24	7g	7f
25	7b	7a
26	8c	8e
27	8g	8f
28	8b	8a
29	10d	9d
30	9c	9e
31	9g	9f
32	9b	9a
33	10c	10e
34	10g	10f
35	10b	10a
36	FINE	M1
37	M2	M3
38	M4	M5
39	B1	B2
40	B3	B4
41	B5	B6
42	B7	B8
43	B9	B10
44	M6	PLAY
45		END
46	COM0	
47		COM1

Terminal No.	Symbol Name	I/O	Terminal Function
49	AD0	I/O	Data bus 0. Mask item... fixed to "L".
50	ASTB	O	Pulse for address latch. Mask item... fixed to "L".
51	V_{SS}	—	0V power supply.
52	V_{SS}	—	0V power supply.
53	—	—	Not connected.
54	MODE	I	Memory mode selection terminal. Use external ROM at "H", use mask ROM at "L". Mask item... "L", external ROM "H".
55	—	—	Not connected.
56	LED0	I	LED matrix scan signal 0.
57	LED1	I	LED matrix scan signal 1.
58	LED2	I	LED matrix scan signal 2.
59	LED3	I	LED matrix scan signal 3.
60	—	—	Not connected.
61	LED4	I	LED matrix scan signal 4.
62	LED5	I	LED matrix scan signal 5.
63	BEAT1	O	BEAT LED ON/OFF signal of CD-1. ON at "H".
64	BEAT2	O	BEAT LED ON/OFF signal of CD-2. ON at "H".
65	V_{DD}	—	+5V power supply.
66	V_{DD}	—	+5V power supply.
67	PIT1	I	CD-1 pitch volume input.
68	PIT2	I	CD-2 pitch volume input.
69	—	I	Not used. Fixed to "L".
70	—	—	Not connected.
71	—	I	Not used. Fixed to "L".
72	—	I	Not used. Fixed to "L".
73	—	I	Not used. Fixed to "L".
74	—	I	Not used. Fixed to "L".
75	—	I	Not used. Fixed to "L".
76	AV_{DD}	—	+5v power supply for A/D converter.
77	AVREF1	—	+5V. A/D converter reference voltage.
78	—	—	Not connected.
79	AV_{SS}	—	0V power supply for A/D converter.
80	—	O	Not used.
81	—	O	Not used.
82	AVREF2	—	+5V. D/A converter reference voltage.
83	AVREF3	—	0V. D/A converter reference voltage.
84	—	—	Not connected.
85	KIN0	I	Key data 0.
86	KIN1	I	Key data 1.
87	KIN2	I	Key data 2.
88	KIN3	I	Key data 3.
89	KIN4	I	Key data 0.
90	KIN5	I	Key data 1.
91	KIN6	I	Key data 2.
92	KIN7	I	Key data 3.
93	RXD–	I	Serial interface reception data.
94	TXD–	O	Serial interface transmission data.

IC TERMINAL FUNCTION LIST

IC101

TABLE OF MICROCOMPUTER μPD78233GJ-5BG (~~IC2~~) TERMINALS

Terminal No.	Symbol Name	I/O	Terminal Function
1	SCL	O	Data read/write clock for NM24C08N (IC105).
2	SDA	I/O	Read/write data of IC105.
3	LCE2	O	Chip enable signal of CD-2's LCD driver.
4	LCLK2	O	Command transmitting clock for CD-2's LCD driver.
5	LDAT2	O	Command data of CD-2's LCD driver.
6	—	O	Not used. Fixed to "L".
7	RST–	I	Hard reset input. Reset at "L".
8	V_{DD}	—	+5V power supply.
9	X2	I	Clock oscillation circuit input 2.
10	X1	I	Clock oscillation circuit input 1.
11	V_{SS}	—	0V power supply.
12	V_{SS}	—	0V power supply.
13	—	—	Not connected.
14	KOUT0	O	Key matrix scan signal 0.
15	KOUT1	O	Key matrix scan signal 1.
16	KOUT2	O	Key matrix scan signal 2.
17	KOUT3	O	Key matrix scan signal 3.
18	KOUT4	O	Key matrix scan signal 4.
19	KOUT5	O	Key matrix scan signal 5.
20	KOUT6	O	Key matrix scan signal 6.
21	—	—	Not connected.
22	KOUT7	O	Key matrix scan signal 7.
23	KOUT8	O	Key matrix scan signal 8.
24	KOUT9	O	Key matrix scan signal 9.
25	WR–	O	Not used. Mask item... fixed to "L", external ROM... fixed to "H".
26	OE–	O	Enable signal output for external ROM. Mask item... fixed to "L", external ROM... pulse output for reading.
27	—	O	Not used. Fixed to "L".
28	LDAT1	O	Command data of CD-1's LCD driver.
29	LCLK1	O	Command transmitting clock for CD-1's LCD driver.
30	LCE1	O	Chip enable signal of CD-1's LCD driver.
31	—	—	Not Connected.
32	A15	O	Memory address 15. Not used. Mask item... fixed to "L".
33	A14	O	Memory address 14. Mask item... fixed to "L".
34	A13	O	Memory address 13. Mask item... fixed to "L".
35	—	—	Not connected.
36	A12	O	Memory address 12. Mask item... fixed to "L".
37	A11	O	Memory address 11. Mask item... fixed to "L".
38	A10	O	Memory address 10. Mask item... fixed to "L".
39	A9	O	Memory address 9. Mask item... fixed to "L".
40	A8	O	Memory address 8. Mask item... fixed to "L".
41	—	—	Not connected.
42	AD7	I/O	Data bus 7. Mask item... fixed to "L".
43	AD6	I/O	Data bus 6. Mask item... fixed to "L".
44	AD5	I/O	Data bus 5. Mask item... fixed to "L".
45	AD4	I/O	Data bus 4. Mask item... fixed to "L".
46	AD3	I/O	Data bus 3. Mask item... fixed to "L".
47	AD2	I/O	Data bus 2. Mask item... fixed to "L".
48	AD1	I/O	Data bus 1. Mask item... fixed to "L".

TABLE OF MICROCOMPUTER μPD78233GJ-5BG(~~IC101~~ IC2) TERMINALS

Terminal No.	Symbol Name	I/O	Terminal Function
1	NODISC	O	NODISC LED ON/OFF signal. ON at "L".
2	RST2	O	Reset signal of IC3(μPD6383GF).
3	SCLK	O	Clock for data reading from IC1(CXD2515Q).
4	RQ1	O	General flag for IC3.
5	RQ2	O	General flag for IC3.
6	RQ3	O	General flag for IC3.
7	RST-	I	Hard reset input. Reset at "L".
8	V_{DD}	—	+5V power supply.
9	X2	I	Clock oscillation circuit input 2.
10	X1	I	Clock oscillation circuit input 1.
11	V_{SS}	—	0V power supply.
12	V_{SS}	—	0V power supply.
13	—	—	Not connected.
14	CLOK	O	Clock for servo command, level command. Connected to IC1, IC30.
15	DATA	O	Data for servo command, level command. Connected to IC1, IC30.
16	XLAT	O	Latch pulse of servo command. Latched at falling edge.
17	LINH	O	CKDATA load inhibit.
18	LDON	O	Laser ON/OFF signal of optical pickup. Laser emits light at "H".
19	CKFIX	O	Pitch select signal. Fixed pitch at "H". Variable pitch at "L".
20	WRITE—	O	Data write signal of IC3. Normally "H","L" at read only.
21	—	—	Not connected.
22	READ—	O	Data read signal of IC3. Normally "H". "L" at read only.
23	CDSEL—	I	Mechanism number input. Mechanism 1 at "L", mechanism 2 at "H".
24	TXDEN	O	Demand signal of serial interface using. Used at "H".
25	WR-	O	Not used. Mask item — fixed to "L", external ROM — fixed to "H".
26	OE-	O	Output enable signal for external ROM. Mask item — fixed to "L", external ROM — pulse output for reading.
27	CS-	O	Chip select signal of IC3. Normally "H". "L" at select only.
28	C-/D	O	Command/data designate signal of IC3. Command at "L", indicates data transmitting mode at "H".
29	NC	O	Not used. Fixed to "L".
30	PLAY—	O	PLAY LED ON/OFF signal. ON at "L".
31	—	—	Not connected.
32	A15	O	Memory address 15. Not used. Mask item — fixed to "L".
33	A14	O	Memory address 14. Mask item — fixed to "L".
34	A13	O	Memory address 13. Mask item — fixed to "L".
35	—	—	Not connected.
36	A12	O	Memory address 12. Mask item — fixed to "L".
37	A11	O	Memory address 11. Mask item — fixed to "L".
38	A10	O	Memory address 10. Mask item — fixed to "L".
39	A9	O	Memory address 9. Mask item — fixed to "L".
40	A8	O	Memory address 8. Mask item — fixed to "L".
41	—	—	Not connected.
42	AD7	I/O	Data bus 7. Mask item — fixed to "L".
43	AD6	I/O	Data bus 6. Mask item — fixed to "L".
44	AD5	I/O	Data bus 5. Mask item — fixed to "L".
45	AD4	I/O	Data bus 4. Mask item — fixed to "L".
46	AD3	I/O	Data bus 3. Mask item — fixed to "L".
47	AD2	I/O	Data bus 2. Mask item — fixed to "L".
48	AD1	I/O	Data bus 1. Mask item — fixed to "L".

Terminal No.	Symbol Name	I/O	Terminal Function
49	AD0	I/O	Data bus 0. Mask item — fixed to "L".
50	ASTB	O	Pulse for address latch. Mask item — fixed to "L".
51	V_{SS}	—	0V power supply.
52	V_{SS}	—	0V power supply.
53	—	—	Not connected.
54	MODE	I	Memory read select terminal. External ROM use at "H", mask ROM use at "L". Mask item — "L", external ROM — "H".
55	—	—	Not connected.
56	AMUTE	O	Audio output mute signal. Mute at "H".
57	SOCK	O	Clock for sub-code reading.
58	SENS	I	Indication signal of servo actuating condition. Emits from IC1.
59	SCK	O	Clock for command transmission to IC1.
60	—	—	Not connected.
61	CKDATA	O	Data of system clock frequency.
62	SQSO	I	Sub-code data input. Emits from IC1.
63	DFLAT	O	Command latch pulse for digital filter. Output to IC300.
64	CUE-	O	CUE LED ON/OFF signal. ON at "L".
65	V_{DD}	—	+5V power supply.
66	V_{DD}	—	+5V power supply.
67	STIN	I	Input for between microcomputers communication. Connected to STOUT of the other mechanism microcomputer. To communicate with 3 kinds of voltages, i.e. 0V, 2.5V, 5V.
68	AUDIO	I	Analog input for audio signal.
69	ISENS+	I	Analog input for tray drive servo.
70	—	—	Not connected.
71	ISENS-	I	Analog input for tray drive servo.
72	—	I	Not used. Fixed to "L".
73	—	I	Not used. Fixed to "L".
74	OPEN-	I	Tray open switch. OPEN state at "L".
75	CLOSE-	I	Tray close switch. CLOSE state at "L".
76	AV_{DD}	—	+5V power supply for A/D converter.
77	AVREF1	—	+5V. A/D converter reference voltage.
78	—	—	Not connected.
79	AV_{SS}	—	0V power supply for A/D converter.
80	LOADER	O	Tray drive signal. Stops at 2.5V, CLOSE action at 3V, OPEN action at 2V.
81	STOUT	O	Output for microcomputer communication. Connects to STIN of the other microcomputer. Communicates with 3 kinds of voltages, i.e. 0V, 2.5V, 5V.
82	AVREF2	—	+5V. D/A converter reference voltage.
83	AVREF3	—	0V. D/A converter reference voltage.
84	—	—	Not connected.
85	FOK	I	Input terminal for OK focusing.
86	EJSW-	I	EJECT/OPEN switch input. Connected to the switch of front panel. Shifts to "L" when the switch is pressed.
87	—	I	Not used.
88	WFCK	I	Connected to WFCK output of IC1. 7.35kHz clock.
89	SCOR	I	Sub-code sink input. Connect to IC1. Input 75 pulses per 1 second.
90	DSPRDY	I	Data receiving READY signal of IC3. Fixed to "H".
91	EIFLAG	I	External input register flag of IC3.
92	EOFLAG	I	External input register flag of IC3.
93	RXD-	I	Serial interface reception data.
94	TXD-	O	Serial interface transmission data.

CXD2515Q (IC1) TERMINAL FUNCTION

Terminal No.	Symbol Name	I/O	Terminal Function
1	SRON	O	Sled drive output.
2	SRDR	O	Sled drive output.
3	SFON	O	Sled drive output.
4	TFDR	O	Tracking drive output.
5	TRON	O	Tracking drive output.
6	TRDR	O	Tracking drive output.
7	TFON	O	Tracking drive output.
8	FFDR	O	Focus drive output.
9	FRON	O	Focus drive output.
10	FRDR	O	Focus drive output.
11	FFON	O	Focus drive output.
12	VCOO	O	Oscillation circuit output for analog EFM PLL.
13	VCOI	I	Oscillation circuit input for analog EFM PLL. fLOCK=8.6436MHz.
14	TEST	I	Test terminal, normally GND.
15	V_{SS}	—	Digital GND.
16	TES2	I	Test terminal, normally GND.
17	TES3	I	Test terminal, normally GND.
	PDO	O	Charge pump output for analog EFM PLL.
19	VPCO	O	PLL charge pump output for variable pitch.
20	VCKI	I	Clock input from external VCO for variable pitch. fCENTER=16.9344MHz.
21	AV_{DD}	—	Analog power supply.
22	IGEN	I	Current source reference resistor connecting terminal for OP amplifier.
23	AV_{SS}	—	Analog GND.
24	ADII	I	A/D converter input terminal.
25	ADIO	O	OP amplifier output terminal.
26	RFDC	I	RF signal input. Input range 2.15–5.0V (at V_{DD}=AV_{DD}=5.0V).
27	TE	I	Tracking error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
28	SE	I	Sled error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
29	FE	I	Focus error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
30	VC	I	Mid-point voltage input terminal.
31	FILO	O	Filter output for master PLL.
32	FILI	I	Filter input for master PLL.
33	PCO	O	Charge pump output for master PLL.
34	CLTV	I	VCO control voltage input for master.
35	AV_{SS}	—	Analog GND.
	RFAC	I	EFM signal input.
37	BIAS	I	Asymmetry circuit constant current input.
38	ASYI	I	Asymmetry compare voltage input.
39	ASYO	O	EFM full swing output. (L=V_{SS}, H=V_{DD}).
40	AV_{DD}	—	Analog power supply.
41	V_{DD}	—	Digital power supply.
42	ASYE	I	Asymmetry circuit ON/OFF (L=OFF, H=ON).
43	PSSL	I	Audio data output mode shifting input. L to serial output, H to parallel output.
44	WDCK	O	48-bit slot D/A interface. Word clock f=2Fs.
45	LRCK	O	48-bit slot D/A interface. LR clock f=Fs.
46	DA16	O	DA16 output at PSSL=1. Serial data of 48-bit slot at PSSL=0.
47	DA15	O	DA15 output at PSSL=1. Bit clock of 48-bit slot at PSSL=0.
48	DA14	O	DA14 output at PSSL=1. Serial data of 64-bit slot at PSSL=0.

Terminal No.	Symbol Name	I/O	Terminal Function
49	DA13	O	DA13 output at PSSL=1. Bit clock of 64-bit slot at PSSL=0.
50	DA12	O	DA12 output at PSSL=1. LR clock of 64-bit slot at PSSL=0.
51	DA11	O	DA11 output at PSSL=1. GTOP output at PSSL=0.
52	DA10	O	DA10 output at PSSL=1. XUGF output at PSSL=0.
53	DA09	O	DA09 output at PSSL=1. XPLCK output at PSSL=0.
54	DA08	O	DA08 output at PSSL=1. GFS output at PSSL=0.
55	DA07	O	DA07 output at PSSL=1. RFCK output at PSSL=0.
56	DA06	O	DA06 output at PSSL=1. C2PO output at PSSL=0.
57	DA05	O	DA05 output at PSSL=1. XRAOF output at PSSL=0.
58	DA04	O	DA04 output at PSSL=1. MNT3 output at PSSL=0.
59	DA03	O	DA03 output at PSSL=1. MNT2 output at PSSL=0.
60	DA02	O	DA02 output at PSSL=1. MNT1 output at PSSL=0.
61	DA01	O	DA01 output at PSSL=1. MNT0 output at PSSL=0.
62	XTAI	I	X'tal oscillation circuit input. 16.9344MHz or 33.8688MHz input.
63	XTAO	O	X'tal oscillation circuit output.
64	XTSL	I	X'tal selection input terminal. L at X'tal for 16.9344MHz, at 33.8688MHz turns to H.
65	V_{SS}	—	Digital GND.
66	FSTI	I	2/3 divided input of terminals 62 and 63.
67	FSTO	O	2/3 divided input of terminals 62 and 63. Unvarying by variable pitch.
68	C4M	O	4.2366MHz output. Simultaneously varies when variable pitched.
69	C16M	O	16.9344MHz output. Simultaneously varies when variable pitched.
70	MD2	I	Digital-out ON/OFF control terminal (L=OFF, H=ON).
71	DOUT	O	Digital-out output terminal.
72	EMPH	O	Emphasis mode output of playback disc (L at without emphasis, H at emphasized).
73	WFCK	O	WFCK output.
74	SCOR	O	Subcode sync output terminal (H at detecting either one of SO or SI subcode sync).
75	SBSO	O	Serial output of sub P-W.
76	EXCK	I	Clock input for SBSO read out.
77	SQSO	O	SubQ 80-bit output. PCM peak data, level data 16-bit output.
78	SQCK	I	Clock input for SQSO read out.
79	MUTE	I	Mute shifting terminal (H to mute).
80	SENS	O	SENS output. Outputs to CPU.
81	XRST	I	System reset (L to reset).
82	DIRC	I	Used for at I-track jump.
83	SCLK	I	Clock for SENS serial data reading.
84	DFSW	I	DFCT shifting terminal (H to DFCT countermeasure circuit OFF).
85	ATSK	I	Anti-shock terminal.
86	DATA	I	Serial data input from CPU.
87	XLAT	I	Latch input from CPU.
88	CLOK	I	Serial data transfer clock input from CPU.
89	COUT	O	Number of track count signal output.
90	V_{DD}	—	Digital power supply.
91	MIRR	O	Mirror signal output.
92	DFCT	O	Defect signal output.
93	FOK	O	Focus OK output.
94	FSW	O	Output filter shifting output of spindle motor.
95	MON	O	ON/OFF control output of spindle motor.
96	MDP	O	Servo control of spindle motor.
97	MDS	O	Servo control of spindle motor.
98	LOCK	O	Sampling GFS with 460Hz and outputs H at GFS is H. Outputs L when continuously 8 times L.
99	SSTP	I	Terminal for inner most circle detection signal of disc.
100	SFDR	O	Sled drive output.

Note:
- 64-bit slot is 2's compliment output of LSB first, 48-bit slot is 2's compliment output of MSB first.
- GTOP is to monitor the protection condition of Frame Sync. (H: Sync protect window open.)
- XUGF is Frame Sync obtained from EFM signal and is negative pulse.
- XPLCK is reversal of EFM PLL clock. PLL is so made the rising edge to meet shifting point of EFM signal.
- GFS signal is a signal to turn to H when frame Sync and inserted protection timing coincide.
- RFCK is obtained with the accuracy of X'tal. The signal of 136µs cycle.
- C2PO is a signal to indicate the state of data error.
- XRAOF is a generating signal when 32kRAM exceeds ±28 frame jitter margin.

TABLE OF DIGITAL SIGNAL PROCESSOR μPD6383GF (IC3) TERMINALS

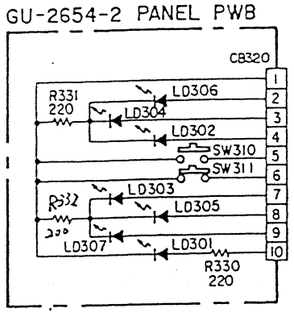
Terminal No.	Name	Symbol	I/O	Type	Function
1	Chip select input	$\overline{CS}$	I	CMOS	Chip selection signal input of μPD6383. Data transfer is able to do between host CPU through SI, SO at a time $\overline{CS}$ is active. Latches SI input at $\overline{CS}$ rising edge.
2	Command/data specific input	$\overline{C/D}$	I	CMOS	Command/data specific signal input of SI input. H: Data L: Command
3	Clock input for serial data	$\overline{SCK}$	I	CMOS	Clock input for serial data transfer. SI input and SO output sync with $\overline{SCK}$.
4	Serial data input	SI	I	CMOS	Serial input of command or data.
5	Serial data output	SO	O	CMOS	Serial output of external output register (EO-R) or instruction RAM contents. N-ch open drain terminal.
6	Exeternal input register flag output	EIFLAG	O	CMOS	State of external input register (EI-R) flag output.
7	External output rgister flag output	EOFLAG	O	CMOS	State of external output register (EO-R) flag output.
8	Ready output	RDY	O	CMOS	SI input accept possible condition signal output. N-ch open drain terminal.
9	Reset input	$\overline{RST}$	I	CMOS	Reset signal input.
10	Reset 2 input	$\overline{RST2}$	I	CMOS	Reset signal input for instruction RAM re-writing without changing the contents of register.
11	Break request input	$\overline{BR\text{-}RQ}$	I	CMOS	Break request signal input from host CPU. With $\overline{BR\text{-}RQ}$, BRRQ flag is set. Used at emulator mode. Pull up at normal mode.
12	Break acknowledge output	$\overline{BR\text{-}AK}$	O	CMOS	Indication signal output of μPD6383 operation brakes. Will reset by BRAKST command. Used at emulator mode.
13	F_S reset input	$\overline{Fs\text{-}RST}$	I	CMOS	Program counter reset signal input. Used at emulator mode. Pull up at normal mode.
14	PC-RST mask input	$\overline{Fs\text{-}MASK}$	I	CMOS	PC-RST inhibit signal input. Used at emulator mode. Pull up at normal mode.
15	+Power supply	V_{DD}	—	—	+power supply to logic circuit (+5V ±10%).
16	Ground	GND	—	—	Ground.
17	Bit clock input	BCLKI	I	CMOS	D11–D13 input signal and bit clock input for D001–003 signal.
18	LR clock input	LRCKI	I	CMOS	D11–D13 input signal and L/R channel specified signal input for D001–003 output signal.
19	X times F_S input	XFsI	I	CMOS	Bit clock generation input at slave mode. By dividing XFsI input and outputs from BCLKO.
20–22	Data input 1–3	DI1–DI3	I	CMOS	Audio signal serial input.
23–25	Data output 1–3	DO1–DO3	O	CMOS	Audio signal serial output.
26	Bit clock output	BCLKO	O	CMOS	Bit clock output for A/D, D/A converter control. Open it not used (at master mode).
27	LR clock output	LRCKO	O	CMOS	L/R channel specified signal output for A/D, D/A converter control. Open if not used (at master mode).
8	X times F_S output 1	XFsO1	O	CMOS	Clock output for A/D, D/A converter control. By dividing μPD6383 system clock and outputs. Dividing ratio is specified with control resister.
29	X times F_S output 2	XFsO2			
30	Test input	TEST	I	CMOS	Input for test. Be sure to pull down.
31	ERQ flag output	$\overline{ERQF}$	O	CMOS	ERQ flag output.
32–35	Mode selection input 1–4 using external RAM	MD1–MD4	I	CMOS	Type and connection condition selecting input of external RAM for digital delay.
36	Ground	GND	—	—	Ground.
37	External clock input	EOSC	I	CMOS	External clock input. Pull up or connect to GND when using no external clock (at SEL=H).
38	System clock selection input	SEL	I	CMOS	System clock selection signal input. H: XI/XO L: EOSC
39	X'tal in	XI	I	CMOS	Connect oscillation X'tal (input side of inverter).
40	X'tal out	XO	O	CMOS	Connect oscillation X'tal (output side of inverter).
41	Ground	GND	—	—	Ground.
42	+power supply	V_{DD}	—	—	+power supply to logic circuit (+5V ±10%).

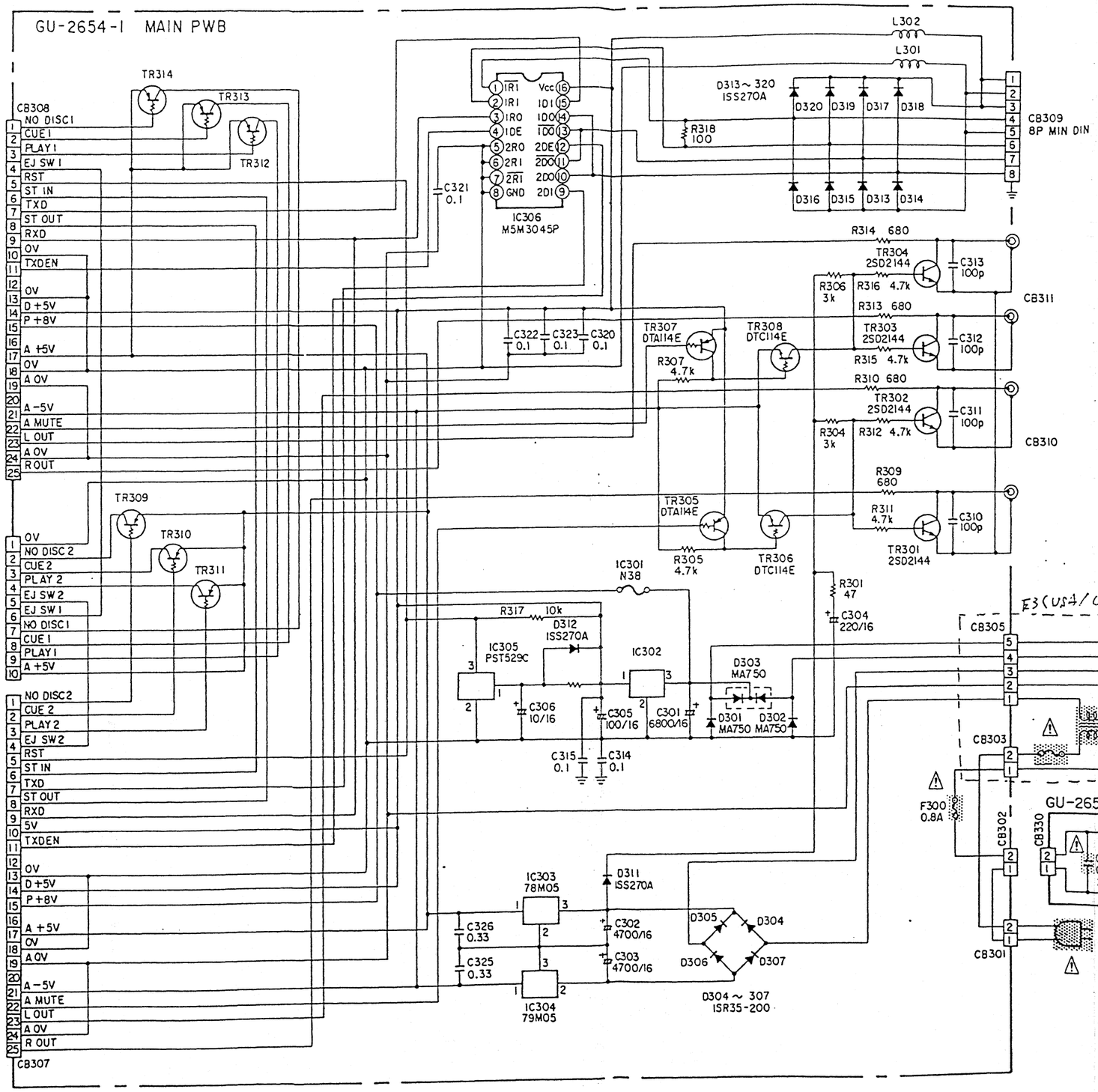
Terminal No.	Name	Symbol	I/O	Type	Function
43	External RAM low address strobe output	$\overline{RAS}$	O	CMOS	Low address strobe output of external RAM for digital delay.
44	External RAM column address strobe output	$\overline{CAS}$	O	CMOS	Column address strobe output of external RAM for digital delay.
45	External RAM write	$\overline{WE}$	O	CMOS	Write enable signal output of external RAM for digital delay.
46–62	External RAM address output 0–16	A0–A16	O	CMOS	External RAM address output for digital delay. A16 is MSB, A0 is LSB. Outputs low address and column address at DRAM selection.
63	+power supply	V_{DD}	—	—	+power supply for logic circuit (+5V ±10%).
64	Ground	GND	—	—	Ground.
65–80	External RAM address input 1–16	I/O1–I/O16	I/O	TTL	Data input/output of external RAM for digital delay. I/O16 is MSB, I/O1 is LSB.
81	Ground	GND	—	—	Ground.
82	+power supply	V_{DD}	—	—	+power supply for logic circuit (+5V ±10%).
83–85	General flag output 1–3	GF1–GF3	O	CMOS	General flag output. GF1–GF3 are feasible to operate with the instruction to set, reset and toggle.
86–88	External flag input 1–3	RQ1–RQ3	I	CMOS	General flag output. RQ1–RQ3 can be operated from host CPU and can be referred with COND field during instruction.
89	Parallel/serial selection input	$P/\overline{S}$	I	CMOS	Parallel/serial selection input of host CPU interface (μC-IF). H: Parallel L: Serial
90	Data write input	$\overline{WRITE}$	I	CMOS	Host CPU data write signal input at parallel interface.
91	Data read input	$\overline{READ}$	I	CMOS	Host CPU data read signal input at parallel interface.
92–99	Data input /output	D0–D7	I/O	CMOS	Audio signal parallel input/output.
100	Data set ready output	SETRDY	O	CMOS	Command set or data set accept condition signal output. Used at emulator mode. Open at normal mode.

1 2 3 4 5 6 7 8

GU-2654-1 MAIN PWB

GU-2654-2 PANEL PWB





NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

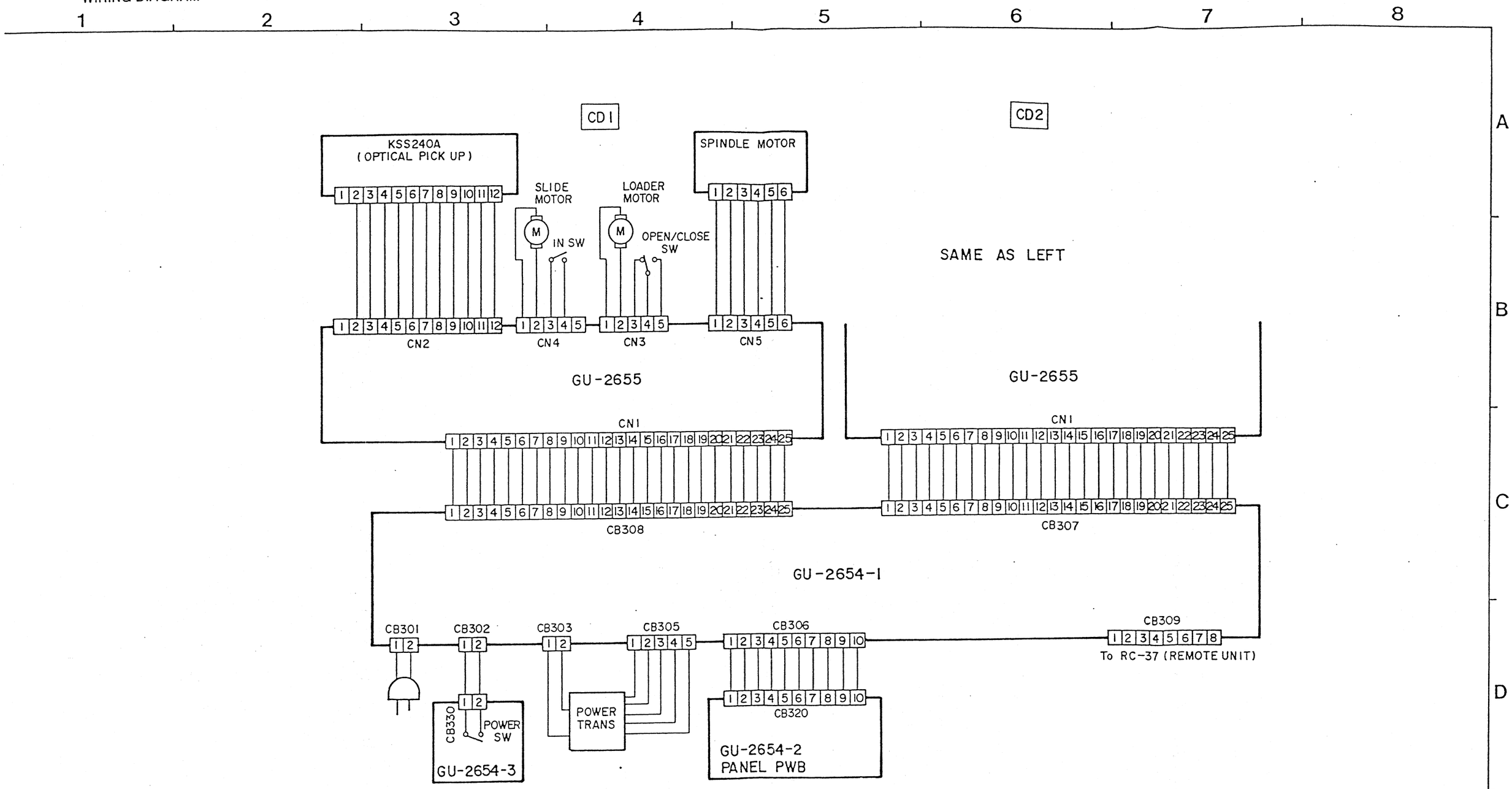
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.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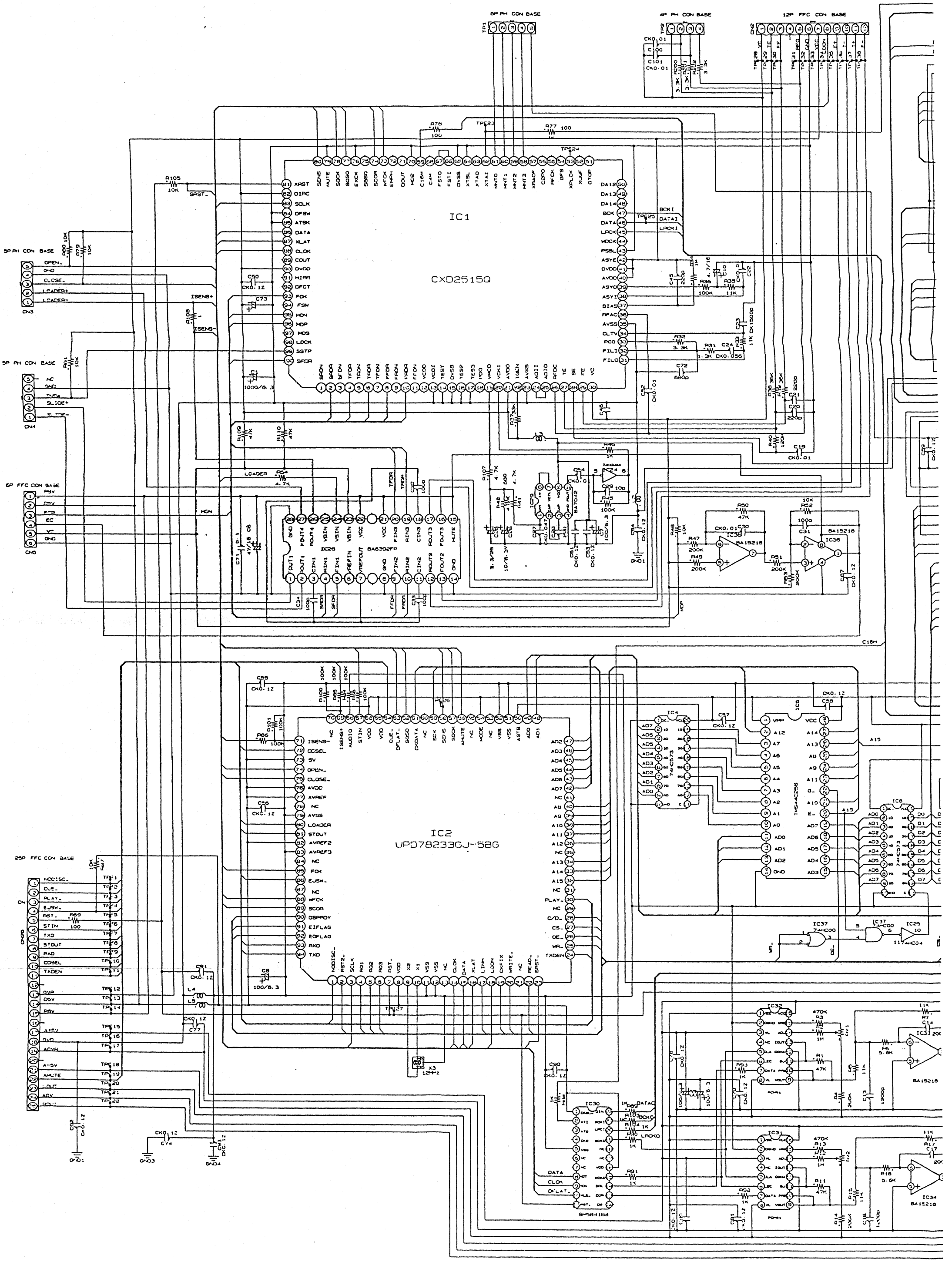
2
3
4
5
6
7
8
A
B
C
D
E
CD1
CD2
KSS240A
(OPTICAL PICK UP)
SLIDE
MOTOR
LOADER
MOTOR
SPINDLE MOTOR
IN SW
OPEN/CLOSE
SW
SAME AS LEFT
CN2
CN4
CN3
CN5
GU-2655
GU-2655
CN1
CN1
CB308
CB307
GU-2654-1
CB301
CB302
CB303
CB305
CB306
CB309
To RC-37 (REMOTE UNIT)
CB330
POWER
SW
POWER
TRANS
CB320
GU-2654-3
GU-2654-2
PANEL PWB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IC35
IC36
BA15218
IC4
74HC573
IC5
IC6
TMS44C256
IC37
74HC00
5P PH CON BASE
4P PH CON BASE
12P FFC CON BASE
5P PH CON BASE
5P PH CON BASE
6P FFC CON BASE
25P FFC CON BASE
CN1
CN2
CN3
CN4
CN5
CN6
X3
12MHz
SAST-
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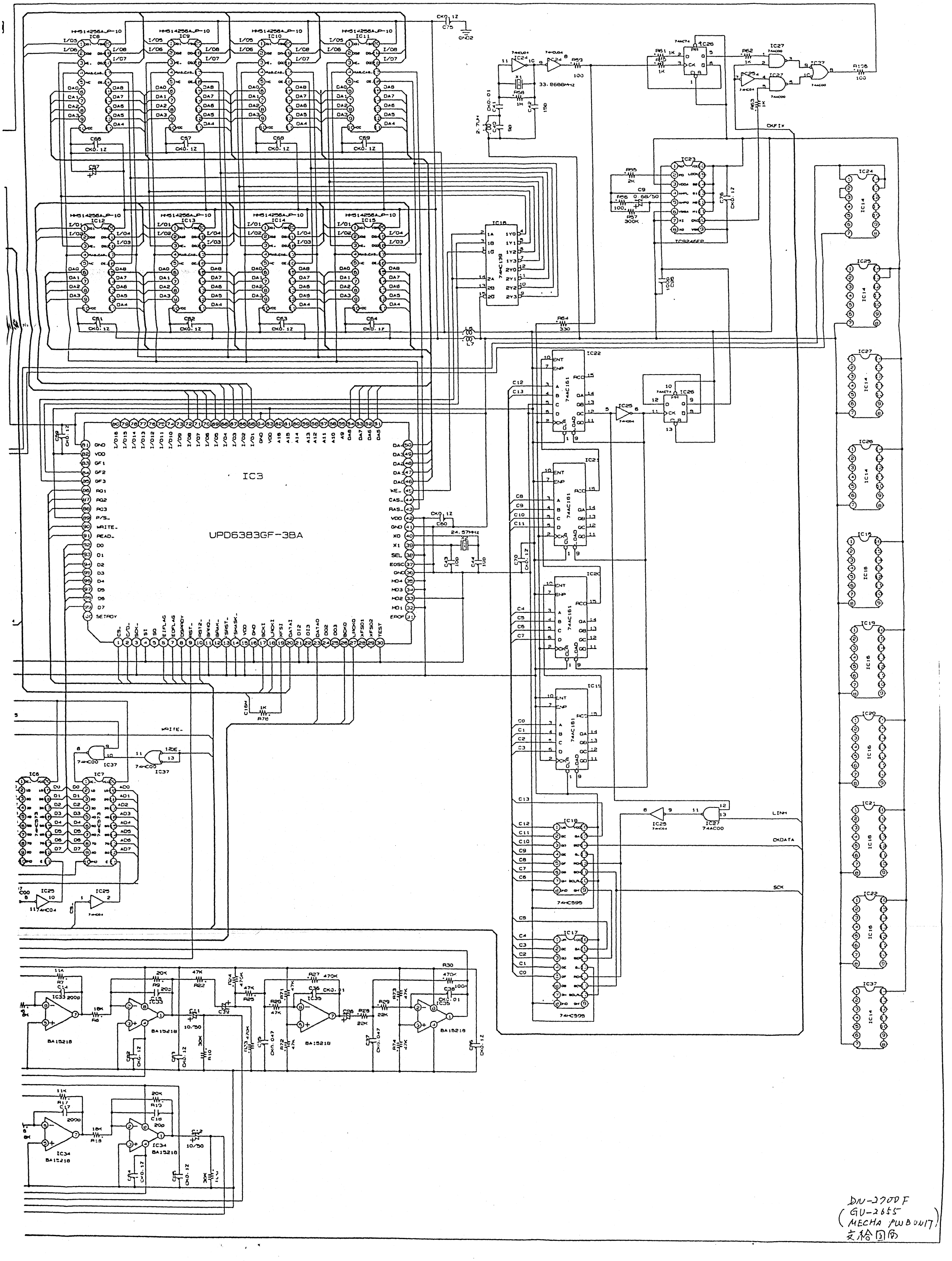
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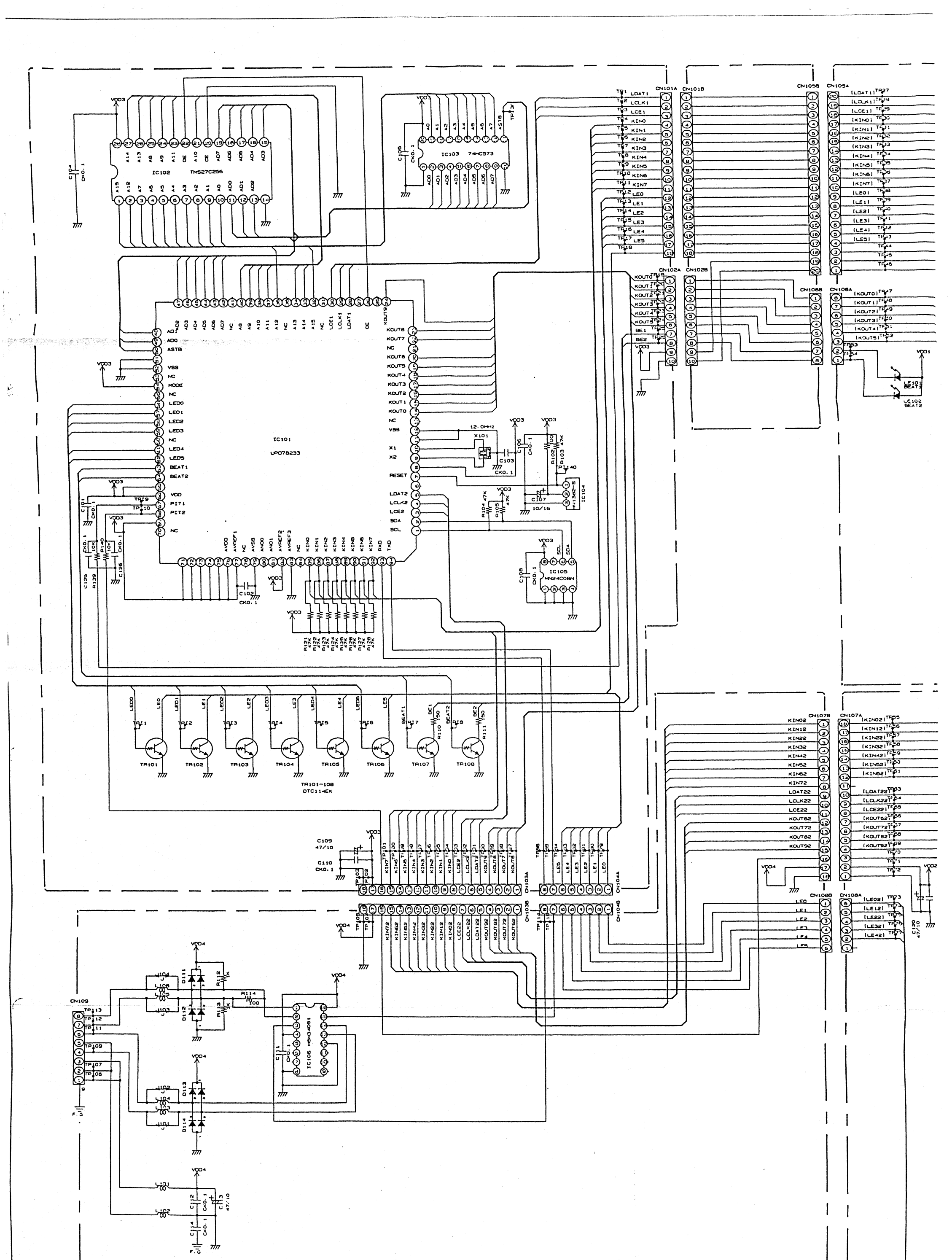
(GV-2655
MECHA PWB UNIT)
交給日商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12.0MHz
TR101-108
DTC114EK
CN101A
CN101B
CN102A
CN102B
CN103A
CN103B
CN104A
CN104B
CN105A
CN105B
CN106A
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CN107A
CN107B
CN108A
CN108B
CN109
VDD3
VDD4
VDD1
VDD2
LDAT1
LCLK1
LCE1
KIN0
KIN1
KIN2
KIN3
KIN4
KIN5
KIN6
KIN7
LE0
LE1
LE2
LE3
LE4
LE5
KOUT0
KOUT1
KOUT2
KOUT3
KOUT4
KOUT5
BE1
BE2
LE101 BEAT1
LE102 BEAT2

DN-2700F
(GU-2656
REMOTE UNIT)
技術資料